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GEOLOGICAL AND NATURAL HISTORY SURVEY OF CANADA.

ALFRED R. C. SELWYN, LL.D., F.R.S., F.G.S., DIRECTOR.

CATALOGUE
OF
CANADIAN PLANTS.

PART II.—GAMOPETALÆ.

BY

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Montreal :
DAWSON BROTHERS.

1884.

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PREFACE.

PART II.

In the preface to the first part of this catalogue, mention was made of the authorities from which our materials were drawn, and the names of the various botanists from whom or through whom we had obtained a knowledge of the geographical range of the various species.

One important omission was, however, inadvertently made. Prominence should have been given to the fact that through the kindness of Dr. Asa Gray and his able assistant, Sereno Watson, Esq., all doubtful species were critically examined and reported on by them. In every case their decision was considered final, except where mention is made of divergence of opinion and the reasons therefor given in the text. For many years these gentlemen have assisted me in determining our difficult phenogams, and much of the real value of the present work is due to them.

During the past year additional data have been obtained from most of the Provinces, chiefly from the following sources:—Extensive collections were made by myself in Nova Scotia, Cape Breton and Anticosti. In New Brunswick several enthusiastic botanists have greatly extended the knowledge of the flora and added many species to the provincial list. Mr. Henry Ami, of the Geological and Natural History Survey, has added a number of interesting species to the Ontario flora, and Adis Fowler, C.E., of Toronto, has contributed a local list of the species found near that city. David F. Day, President of the Buffalo Natural History Society, has transmitted a complete list of the species collected by himself and others on the Canadian side of the Niagara River and on the shore of Lake Erie. The Canadian Pacific Railway Company had extensive collections made last summer in the prairie region by Messrs. Mason, Duckert, Creelman and J. M. Macoun. Dr. G. M. Dawson, assisted by J. B. Tyrrell, B.A., in connection with his explora-

tions in the Rocky Mountains has made many valuable additions to the flora of that region. In British Columbia, Mr. James Fletcher, of Ottawa, has collected on Vancouver Island and in the valleys of the Fraser and Thompson rivers; while Mr. Cowley and J. A. Hill, C.E., have favoured me with many interesting plants from various parts of that province.

Special thanks are due to Thomas Meehan, Esq., State Botanist of Pennsylvania, for an extensive manuscript list of the species collected by him on the British Columbian and Alaskan coasts, during the summer of 1883. This list is a valuable addition to our knowledge of the west coast flora.

It is proposed to continue the present work until all known species of Canadian plants are catalogued, and their geographical range recorded, and the writer earnestly invites all botanical students within the Dominion to assist in this necessary work. The next part will complete the exogens, and to this an addendum will be attached bringing our knowledge of the foregoing parts up to date.

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GAMOPETALOUS EXOGENS.

XLVIII. CAPRIFOLIACEÆ. HONEYSUCKLE FAMILY.

244. ADOXA, Linn.

(908.) **A. Moschatellina**, Linn. Tuberous Moschatel.

In damp shady places under trees. Wooded country, Lat. 54°-64°. (Richardson.) Along a small stream on the Telegraph Trail, east of Nechacco River, B. C. (Macoun.) Cariboo Mountains, B.C. (Cowley.)

245. SAMBUCUS, Linn. (ELDER.)

(909.) **S. racemosa**, Linn. Red-berried Elder.

S. racemosa, β . Hook. Fl. I., 279.

S. pubens, Michx. Var. γ . *arborescens*, Torr. & Gray, Fl. II., 13.

Rocky hillsides from the eastern side of the Rocky Mountains to the Pacific. Rocky Mountains on the east side. (Drummond.) Slope of the south Kootanie Pass, and at Michell Creek, Crow Nest Pass, Lat. 50°; Tsi-tsutl Mountains, B. C. (Dawson.) Thickets around Victoria, Vancouver Island, and at Quesnel, B.C. (Macoun.) Sitka. (Rothr. Alask.)

Var. **pubens**, Watson, King's Rept. V., 133.

S. pubens, Michx. Gray, Manual, 205. Macoun's Cat., No. 785.

S. pubescens, Pers. Pursh, Fl. I., 204.

S. racemosa, Hook. Fl. I., 279.

Common along fences and in rocky thickets from Nova Scotia to the Saskatchewan. This form has generally five leaflets while the last has seven, with the under side much more pubescent in the mountain specimens.

- (910.) **S. Canadensis**, Linn. Common Elder.

In low thickets and along fences, frequent from Nova Scotia to the Saskatchewan. Berries purple.

246. Viburnum, Linn. ARROW-WOOD.)

- (911.) **V. Lentago**, Linn. Sweet Viburnum. Sheep-berry.

Common from Rivière du Loup westward to the valleys of the Red, Assiniboine, and Saskatchewan rivers. Its usual habitat is river valleys where it sometimes grows to the height of twenty feet with a diameter of six inches. Its wood is of a yellow color and when fresh cut has a very powerful and offensive odor.

- (912.) **V. nudum**, Linn. Var. **cassinoides**, Torr. & Gray.

V. nudum, Hook. Fl. I., 279.

V. pyriforme, Pursh, Fl. I., 201.

V. cassinoides, Linn. Pursh, Fl. I., 202.

V. prunifolium, Hook. Fl. I., 279.

Common in cold swamps and rocky wet woods from Newfoundland, Nova Scotia and New Brunswick to the Saskatchewan. Rare in southern Ontario. Port Colborne, Ont. (*David F. Day*.)

- (913.) **V. dentatum**, Linn. Arrow-wood.

Wet places and thickets in south-western Ontario. La Grande Chaudière, Ottawa. (*Pursh*.) [Extremely doubtful.] Woods, north of the Junction, Prescott, Ont. (*Billings*.) Chippawa, Ont. (*MacLagan*.) It is probable that part of the above references belong to the next species. Delaware station near St. Thomas, Ont. (*Macoun*.)

- (914.) **V. pubescens**, Pursh. Downy Arrow-wood.

Dry rocky fields and thickets extending from the western part of Quebec to Manitoba, near Brandon on the Assiniboine. Nicolet, Q. (*MacLagan*) is its eastern limit. Although called Downy Arrow-wood, it is often almost smooth, and approaches closely to the preceding except in its short petioles which are constant.

- (915.) **V. acerifolium**, Linn. Maple-leaved Arrow-wood.

Dry rocky thickets and borders of woods. Belœil and Montreal Mountains. (*McGill Coll. Herb.*) Common in Ontario. (*Macoun*.) From Lake Huron to the Saskatchewan. (*Drummond*.) This species is reported from Newfoundland, Nova Scotia and Alaska, but, as it was formerly confounded with the next, I believe these references belong to that species.

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(916.) **V. pauciflorum**, Pylaie. Few-flowered Viburnum.*V. acerifolium*, Bongard's Veg. Sitka.*V. Oxyccocus*, Pursh. Hook. Fl. I., 281, in part.*V. edule*, DC. Hook. Fl. I., 281, in part.

Very common in cool low woods or on mountain slopes throughout the northern forest region. Labrador. (*Butler.*) Mountains near Joachim, Q. (*Brunet.*) Anticosti, Gaspé Peninsula, north shore of Lake Superior, and westward to northern British Columbia, where it is very abundant; also, Cypress Hills, N. W. T. (*Macoun.*) Flathead River, B. C. (*Dawson.*) Saskatchewan to Slave Lake in Lat. 66°. (*Richardson.*) Sitka. (*Rothr. Alaska.*)

(917.) **V. Opulus**, Linn. High-bush Cranberry.*V. Oxyccocus*, Pursh. Hook. Fl. I., 281, in part.*V. edule*, DC. Hook. Fl. I., 281, in part.*V. Opulus*, Linn. Var. *Americanum*, Ait. Torr. & Gray, Fl. II., 18.

In river valleys and low damp meadows by brooks. Anticosti, Nova Scotia, and westward to the valleys of the Red, Assiniboine and Saskatchewan rivers. More southern than the preceding, and ripening its abundant fruit, which, however, is far from being so pleasant as that of *V. pauciflorum*, much later.

(918.) **V. lantanoides**, Michx. Hobble-bush.

Common in cool, damp or rocky woods from Nova Scotia and New Brunswick, throughout Quebec and northern Ontario, to Lake Superior.

247. LINNÆA, Gronov. (TWIN-FLOWER.)(919.) **L. borealis**, Gronov. Northern Twin-flower.

Very abundant in cool, mossy woods from the Atlantic to the Pacific and far northward.

Var. **longiflora**, Torrey in Bot. Wilkes Exped.

Queen Charlotte Islands. (*Dawson.*) This form has larger flowers with a long tapering tube and much longer and wider sepals. (*Macoun.*)

248. SYMPHORICARPOS, Juss. (SNOW-BERRY.)(920.) **S. occidentalis**, R. Br. Wolf-berry.

Very common throughout the prairie region extending from the

eastern margin of the prairie to the Rocky Mountains. (*Macoun.*)
Forest country, Lat. 54°-64°. (*Richardson.*)

(921.) **S. racemosus**, Michx. Snow-berry.

Symphoria racemosus, Pers. Pursh, Fl. I., 162.

Xylosteum ciliatum, *β. album*, Pursh, Fl. I., 161.

Rocky and dry river banks and in thickets where limestone gravel prevails. Pictou, N.S. (*McKay.*) Truro, N.S. (*Macoun.*) Common in gardens (cultivated), N.B. (*Fowler's Cat.*) On mountains near Lake Mistassini, Q. (*Michaux.*) Very abundant in the limestone districts of Ontario, and extending westward to the Rocky Mountains and British Columbia. (?)

Var. **pauciflorus**, Robbins.

Same habitat but seldom separated from the last. The common form at Ottawa. (*Fletcher.*) On the Canadian side of the Niagara River, near the Falls. (*David F. Day.*) Vicinity of Toronto. (*Burgess.*) Belleville, Ont. (*Macoun.*) Port Colborne, Ont. (*McGill Coll. Herb.*) South of Battleford, N.W.T. (*Macoun.*)

249. LONICERA, Linn. (HONEYSUCKLE. WOODBINE.)

(922.) **L. ciliosa**, Poir.

L. occidentalis, Hook. Fl. I., 232. Macoun's Cat. No. 777.

Caprifolium ciliosum, Pursh, Fl. I., 160.

Rocky hillsides Pacific coast. Vancouver Island, near Victoria. (*Fletcher & J. Richardson.*) Skagit River, B.C. (*Dawson.*)

(923.) **L. hispidula**, Douglas. Var. **Douglasii**, Gray.

L. (?) microphylla, Hook. Fl. I., 283.

Vicinity of Victoria, Vancouver Island. (*J. Richardson.*)

(924.) **L. hirsuta**, Eaton. Hairy Honeysuckle.

Climbing high over bushes and along fences, from the Ottawa westward. Beauharnois Co., Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Wolfe Island, Kingston, Ont. (*MacLagan.*) Common at London, Ont., and Prince Arthur's Landing, Lake Superior. (*Burgess.*) Common in central Ontario, also up the Kaministiquia River, Lake Superior. (*Macoun.*) Pancake River, Lake Huron. (*J. Bell.*) Owen Sound and Sable. (*McGill Coll. Herb.*)

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(925.) **L. Sullivantii**, Gray.*L. flava* var. β . Torr. & Gray, Fl. II., 6.*L. Douglasii*, Hook. Fl. I., 282.

Neighborhood of Winnipeg. (Gray, 1883.) I refer specimens which I have hitherto named *L. parviflora*, var. *Douglasii* to this species. These were collected at the Pic River, Lake Superior, on the Assiniboine at Fort Ellice, and at Manitoba House, Lake Manitoba, Man. (Macoun.) In the vicinity of Emerson, Red River, Man. (Dawson.) Moose Mountain, Man. (J. M. Macoun in C. P. R. Coll.)

(926.) **L. glauca**, Hill. Smooth Honeysuckle.*L. parviflora*, Lam. Gray, Man. Ed. V., 204. Macoun's Cat. No. 779.*Cuprifolium parviflorum*, Pursh, Fl. I., 161.*C. bracteosum*, Michx. Fl. I., 105.

Montreal Mountain. (Holmes.) Common throughout Ontario in thickets and along fences. (Macoun.) Near Emerson, Man. (Burgess.) Occasionally met with in Manitoba. (Macoun.) Frequent, and as far north as the Saskatchewan, and from Hudson Bay to the Rocky Mountains. (Hooker.) Milk River Ridge, Long. 112°, N. W. T. (Dawson.) Hooker mentions two varieties, one with glabrous leaves, which we recognize as the species under consideration. The other with leaves which are pubescent on the under side, which is our western form or *L. Sullivantii* (Gray.)

(927.) **L. involucrata**, Banks.

Rocky woods and banks of streams throughout the wooded region. Near the confluence of the Metapedia and Restigouche Rivers, N.B. (Chalmers.) Ste. Anne's River, Gaspé, Q. (Porter.) Port Arthur Lake Superior. (Macoun.) North and South Kootanie Passes; eastern slope of Rocky Mountains and Belly River. (Dawson.) Forest country, Lat. 54°-64°, thence to the Rocky Mountains. (Richardson.) Frequent on the north-west coast, Lat. 54°-56. (Douglas.) Common in northern British Columbia. (Macoun.) Queen Charlotte Islands and Coast Range, B.C. (Dawson.) Abundant near, Victoria, B.C. (Fletcher.)

(928.) **L. ciliata**, Muhl. Fly Honeysuckle.*Xylosteum Tartaricum*, Michx. Fl. I., 106.*X. ciliatum*, Pursh, Fl. I., 161.

Damp and rocky woods; generally on turned up stumps. Common in Nova Scotia, New Brunswick, and westward throughout Quebec and Ontario, to the Saskatchewan. (Macoun.) Dean or Salmon River, B. C. (Dawson.)

(929.) **L. caerulea**, Linn. Mountain Honeysuckle.*Xylosteum villosum*, Richards. in Frankl. Journ. 6.

Swamps and high northern woods, common northwards. In bogs Labrador, Newfoundland, Nova Scotia, New Brunswick, Anticosti and Quebec, Michipicotin Island, Lake Superior, and in swamps along the north shore; extending westward, in the forest region, to the northern part of British Columbia. (*Macoun.*) Throughout the wooded country and as far north as Lat. 66°. (*Richardson.*) A specimen in fruit with oval rather long-petioled leaves, gathered in the South Kootanie Pass by Dr. G. M. Dawson, is doubtfully referred here.

Var. **villosa**, Torr. & Gray Fl. II., 9.*Xylosteum villosum*, Michx. Pursh, Fl. I., 161.

Distinguished from the last by its hairy branches and leaves. Hudson Bay. (*Michaux.*) Newfoundland. (*Pylaie.*) Coast of Labrador and Dartmouth Hills, N.S. (*McGill Coll. Herb.*) Chipman and Gondola Point, N.B. (*Wetmore.*) Marshes along the base of the Porcupine Mountain, head of Lake Winnipegosis, Lat. 53°. (*Macoun.*) Knee Lake, Nelson River, near Hudson Bay. (*R. Bell.*)

(930.) **L. oblongifolia**, Hook. Swamp Honeysuckle.

Cedar and tamarac swamps; rare. Lake Memphremagog, Q. (*Burgess.*) Montreal Island, Q. (*Goldie.*) Recollet swamp, five miles from Montreal. (*McRae.*) Near Heck's Mills, vicinity of Prescott, Ont. (*Billings.*) Swamps in Hastings and Northumberland Counties; vicinity of Owen Sound, Ont.; and Dawson Road, west of Port Arthur, Lake Superior. (*Macoun.*) Lake Winnipeg. (*Drummond.*)

(931.) **L. Tartarica**, Linn. Garden Fly Honeysuckle.

Escaped from gardens and growing from seed at Belleville, Ont. (*Macoun.*) Apparently naturalised at Hamilton, Ont. (*Buchan.*) Spontaneous near Fort Erie, Ont. (*David F. Day.*) Escaped from gardens and growing from seeds at Ottawa and New Edinburgh. (*Fletcher.*)

250. DIERVILLA, Tourn. (BUSH-HONEYSUCKLE.)(932.) **D. trifida**, Mœnch.*D. Tournefortii*, Michx. Fl. I., 107.*D. lutea*, Pursh, Fl. I., 162.*D. humilis*, Pers. Holmes Herb. McGill College.*D. Canadensis*, Willd. Hook. Fl. I., 281.

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banks of rivers. Common from Anticosti, Nova Scotia, and New Brunswick to the western part of Ontario, thence westward to Red Deer River, Lat. 53°. (*Macoun.*) From Hudson Bay to the Rocky Mountains. (*Hooker.*)

251. *Triosteum*, Linn. (HORSE-GENTIAN.)

(933.) *T. perfoliatum*, Linn. Fever-wort.

T. majus, Michx. Fl. I., 107.

Damp low grounds along brooks and in river valleys. Papineau Woods, near Montreal. (*Holmes.*) Rich low woods Montreal and St. Therese, Q. (*Brunet.*) Chelsea, Q., near Ottawa. (*Billings.*) Vicinity of Ottawa and westward throughout Ontario to the Georgian Bay, not uncommon.

XLIX. RUBIACEÆ. MADDER FAMILY.

252. *Cephalanthus*, Linn. (BUTTON-BUSH.)

(934.) *C. occidentalis*, Linn. Button-bush.

Muddy borders of rivers and lakes, common. Lake St. Pierre, Q. (*Brunet.*) Gregory's Meadows, near Montreal. (*Holmes.*) St. Andrews, Brome Lake, Knowlton and Lake Commandant, Q. (*McGill Coll. Herb.*) Common in Ontario, extending west to the Sault Ste. Marie.

253. *Houstonia*, Linn. (HOUSTONIA.)

(935.) *H. purpurea*, Linn. Var. *ciliolata*, Gray.

Hedyotis ciliolata, Hook. Fl. I., 286.

On rocky places, especially limestone, along or near rivers and lakes, apparently rare. Very abundant in rocky woods along the Bay of Quinte at Belleville; shore of Chicken Bay, Lake Huron. (*Macoun.*) Niagara River, at the Whirlpool and above. (*MacLagan & Day.*) Vicinity of Paris, Ont. (*Logie.*)

Var. longifolia, Gray.*Hedyotis longifolia*, Hook. Fl. I., 286.*Houstonia angustifolia*, Pursh Fl. I., 106.*H. tenuifolia*, Nutt. Dawson Bound, Rep. 362.

Not uncommon on gravelly soil. Strathroy, Ont. Norway House, Lake Winnipeg. (*McGill Coll. Herb.*) Lake of the Woods. (*Dawson.*) Lake of the Woods and mouth of Rainy River; along the Assiniboine River, both above and below Brandon, Man.; also western end of Moose Mountain, N.W.T. (*Macoun.*) On Moose Mountain Creek, 15 miles south-west of Moose Mountain. (*J. M. Macoun in C. P. R. Coll.*)

(936.) H. cærulea, Linn. Bluets.*Oldenlandia cærulea*, Gray Man. 2nd Ed.*Hedyotis cærulea*, Hook. Fl. I., 286, var. *a.*

Rocky or sandy fields and thickets usually along the coast. Very abundant at Point Pleasant and the North West Arm, Halifax, N.S.; sandy fields Kingston, Annapolis Valley, N.S. (*Macoun.*) Very abundant in St. John Co. Have not noticed it farther north. In moist grassy places. On the sea shore at Rothesay, N.B. (*Fowler's Cat.*) St. Hyacinthe, Richmond, and along the River St. Francis, Q. (*Brunet.*) Nicolet, Q. (*MacLagan.*) About Quebec. (*Hooker.*)

Var. β . minor, Torr. & Gray.*Hedyotis cærulea*, L. var. β .*Houstonia Linnei* β . *minor*, Michx. Fl. I., 85.

Fort William on Lake Superior. (*Richardson.*) Not noticed by later explorers.

254. MITCHELLA, Linn. (PARTRIDGE-BERRY.)**(937.) M. repens, Linn.**

Under evergreens and other trees from Nova Scotia and New Brunswick westward to the Georgian Bay. A beautiful little plant whether in fruit or flower.

255. CALIUM, Linn. (CLEAVERS. BEDSTRAW.)**(938.) C. Apariné, Linn. Goose-grass.**

In cultivated ground and on borders of woods, also along gravelly beaches. Introduced in ballast at Carleton, N.B. (*Fowler's Cat.*) On

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ballast heaps at North Sydney, Cape Breton, and at Pictou, N.S. (Introduced.) Very abundant along the beach above Beesie River, Anticosti. (*Macoun.*) Saint Croix, near Quebec, in gardens. (*Brunet.*) Mountain side, Hamilton, Ont. (*Logie.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) London, Ont. (*Burgess.*) Gardens and fields near Belleville; also at Owen Sound, Ont.; vicinity of Victoria, Vancouver Island. (*Macoun.*) Sitka and Ounalashka. (*Roth. Alask.*)

(939.) ***G. asprelum***, Michx. Rough Bedstraw.

Climbing over bushes along streams in meadows or open woods, Windsor, N.S. (*How.*) Truro, N.S., and Whycomagh, Cape Breton; also along the Gaspé coast. (*Macoun.*) Common in low woods, N.B. (*Fowler's Cat.*) Very common in Quebec, and extending westward through Ontario to the Kaministiquia River west of Lake Superior. (*Macoun.*)

(940.) ***G. Mollugo***, Linn. Narrow-leaved Bedstraw.

Introduced in ballast at Richibucto, N.B. (*Fowler's Cat.*) In cultivated fields, Truemanville, N.S. (*Trueman.*)

(941.) ***G. trifidum***, Linn. Small Bedstraw.

G. Claytoni, Hook. Fl. I., 288.

Under several forms this species extends from the Atlantic to the Pacific and north to Lat. 68°. The leading varieties are as follows:—

Var. ***pusillum***, Gray.

In swamps and cold bogs. Bog at Ellis Bay, Anticosti. (*Macoun.*) Abundant in spaginous swamps. N.B. (*Fowler's Cat.*) Dawson Road, west of Port Arthur. (*Burgess.*)

Var. ***tinctorium***, Torr. & Gray.

G. tinctorium, Linn. Hook. Fl. I., 288.

In boggy and wet open woods amongst bushes. Newfoundland. (*Morrison.*) Quite common in Nova Scotia, especially around Annapolis; also common along the Gaspé coast. (*Macoun.*) Frequent in Quebec. (*McGill Coll. Herb.*) In swampy woods, Muskoka, Ont. (*Burgess.*) Straits of De Fuca, north-west coast. (*Scouler.*)

Var. ***latifolium***, Torr.

G. obtusum, Bigel, & *G. strictum*, Holmes Coll. McGill College.

Generally in wet marshy woods, easily known by its broad leaves and widely branching stems. Portland, N.B. (*Matthews.*) St. Andrew's

and Montreal Mountain. (*McGill Coll. Herb.*) Marshes in the vicinity of Belleville, and along the line of the Canada Southern Railway, west of St. Thomas, Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*)

Var. **bifolium**, Macoun.

A tall-growing lax form with all the leaves opposite and tapering at the base into a petiole; margins and midrib very slightly retrorsely hispid; flowers, numerous, in corymbs, with the parts in fours. This form approaches *var. tinctorium*, but is quite distinct, being constantly two leaved and having larger and more widely spreading flowers. Collected on Amherst Island, one of the Magdalens, in the Gulf of St. Lawrence, by Mr. James Richardson, August 7th, 1879.

(942.) **G. triflorum**, Michx. Three-flowered Galium.

G. brachiatum, Pursh, Fl. I., 103.

Abundant in cool woods, from the Atlantic to the Pacific, and north to Lat. 58° on the Peace River. The British Columbian specimens are remarkable for having the sweet scent of the European *Asperula odorata*, when drying.

(943.) **G. Aparine**, Linn. Var. **Vaillantii**, Koch.

On ledges, in a deep cañon, below the bridge on Elk River, west of the Crow Nest Pass, Rocky Mountains. Alt. 3,000 feet. (*Dawson.*)

(944.) **G. pilosum**, Ait. Hairy Galium.

Sandy or dry open woods, south-western Ontario. Vicinity of Queenston and on sand at the southern extremity of Point Pelee, Lake Erie. (*Macoun.*) Malden, Ont. (*MacLagan.*)

(945.) **G. circæzans**, Michx. Wild Liquorice.

Dry open woods, rather rare. Island of Orleans, Q. (*Thomas.*) Rich woods at Quebec and St. Charles, Q. (*Brunet.*) Montreal Mountain. (*Holmes.*) Vicinity of Kemptville, Ont. (*McGill Coll. Herb.*) Woods near Ottawa. (*Fletcher Fl. Ott.*) Mirwin's Wood's, near Prescott, Ont. (*Billings.*) Kingston and St. Catharines. (*MacLagan.*) Rocky woods, near Picton, and in Seymour, Northumberland Co., Ont.; also Queens-ton Heights. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*)

(946.) **G. lanceolatum**, Torr. Wild Liquorice.

G. circæzans, β . *lanceolatum*, Torr. & Gray Fl. II., 24.

Rocky woods, rather rare. Vicinity of Quebec. (*Shepperd.*) St

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Andrews and Belœil Mountain, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) At Mirwin's Woods, near Prescott, Ont. (*Billings.*) Woods near Belleville; woods Seymour, Northumberland Co., and on the Rice Lake Plains, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) At the Whirlpool, Niagara River. (*MacLagan.*) Vicinity of London. (*Burgess.*)

(947.) **G. Kamtschaticum**, Steller.

G. circæzans, var. *montanum*, Torr. & Gray Fl. II., 24.

Mountain woods on the upper slopes of Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun.*) In woods near the northern end of Cape Breton Island. (*McKay.*)

(948.) **G. boreale**, Linn. Northern Bedstraw.

G. septentrionale, Richards. in Frankl. Journ. 4.

G. Bermudianum, Muhl. Holmes Herb. McGill College.

G. strictum, Torr. Holmes Herb. McGill College.

In gravelly or rocky thickets from Quebec westward. Vicinity of Montreal. (*Holmes.*) Common throughout Ontario and westward to the Pacific Coast, extending northward to Lat. 68°. It is very remarkable that this species, although northern and European, is not found in the Eastern Provinces, except at Montreal. This plant varies so much that none of the descriptions are constantly applicable, though all forms are clearly referable to a single species. Rocky Mountain specimens are scabrous above with very hairy fruit and the dried leaves almost revolute and very obtuse.

(949.) **G. rubioides**, Linn. Hook. Fl. I., 289.

I believe this to be an extreme form of *G. boreale*, but I prefer to classify the broad leaved forms under *G. rubioides*. The leaves of these are ciliate on the margins and hairy on the veins beneath, thin and perfectly flat. Grassy thickets near Belleville, Ont. (*Macoun.*) Qualcho Lake, B.C. (*Dawson.*) Abundant on dry elevated soils under the shade of solitary pines, in the Valley of the Columbia. (*Douglas.*) Kotzschbue Sound. (*Lay & Collie.*)

(950.) **G. verum**, Linn. Yellow Bedstraw.

On waste grounds. Scarcely naturalized. Township of Gloucester, two miles from Ottawa. (*R. B. Whyte.*) Vicinity of Hamilton, Ont. (*Buchan.*)

256. SHERARDIA, Linn. (BLUE FIELD-MADDER.)

(951.) **S. arvensis**, Linn.

Introduced in one or two places. Tatamagouche, Colchester Co., N.S. (*McKay*.) Roadsides and waste places, Ottawa. Gathered two years in succession. (*Ami*.) In Parkdale on the Gwynne Estate near Toronto. (*Fowler*.)

L. VALERIANACEÆ. VALERIAN FAMILY.**257. VALERIANA, Linn. (VALERIAN.)**

(952.) **V. dioica**, Linn, var. **sylvatica**, Watson. Marsh Valerian.

V. sylvatica, Rich. Hook. Fl. I., 281.

Swamps, marshes and wet meadows by brooks. Newfoundland. (*Banks*.) On Clear Water River, north of Methy road. (*Richardson*.) Prairies of the Rocky Mountains about Lat. 54°. (*Drummond*.) Bogs along the shore of Lesser Slave Lake and on the road between it and Peace River. (*Macoun*.) Rocky Mountains, South Kootanie Pass. (*Dawson*.) Norton Sound. (*Rothr. Alask.*) Cariboo, B.C. *Cowley*.

Var. **ulliginosa**, Torr. & Gray Fl. II., 47.

In swamps and peaty bogs. Leaves ciliate particularly on the petioles and stems, pubescent generally in one line. Not common at Rivière du Loup, Q. (*Thomas*.) Jupiter River, Anticosti; tamarac swamps at Belleville, Ont.; swampy meadows and bogs, Peterboro' and Victoria Co's., Ont.; swampy meadow, Quesnel, B.C. (*Macoun*.)

(953.) **V. capitata**, Willd. Hook. Fl. I., 292.

Cool woods and by brooks, generally in the mountains. Eastern summit of North Kootanie Pass and Crow Nest Pass, east of summit, Lat. 49° 30'. Tsi-tsautl Mountains, B.C. (*Dawson*.) Arctic shores, between the Coppermine and Mackenzie Rivers. (*Richardson*.) Kotzebue Sound to Cape Lisburne; Sitka; Point Barrow to Mackenzie River. (*Rothr. Alask.*)

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Var. **Hookeri**, Torr. & Gray Fl. II., 48.

V. pauciflora, Hook. Fl., 291.

By brooks and in cool mountain woods. Woods in the Rocky Mountains north of the Smoky River, about Lat. 56°. (*Drummond*.) South Kootanie Pass; eastern side of Crow Nest Pass and on the Flathead River, Rocky Mountains. (*Dawson*.) Vicinity of Yale, B.C. (*Macoun*.) Vancouver Island, near Nanaimo. (*J. Richardson*.)

(954.) **V. edulis**, Nutt.

V. ciliata, Torr. & Gray Fl. II., 49.

Patrinia longifolia, MacNab in Edinb. Phil. Journ., 19.

Patrinia ceratophylla, Hook. Fl. I., 290.

Rich low grounds along the Maitland River, near Goderich, Ont., 1834. (*MacNab*.) Valley of the Bayfield River, Lake Huron. (*Gibson*.) Flats of the River Thames, near London, Ont. (*Burgess*.) Valleys of the Rocky Mountains within British Columbia. [?] (*Douglas*.)

258. PLECTRITIS, DC.

(955.) **P. congesta**, DC.

Abundant on grassy open places around Victoria, Vancouver Island. (*Macoun & Fletcher*.) Queen Charlotte Islands. (*Dawson*.)

259. FEDIA, Mœench. (CORN-SALAD.)

(956.) **F. olitoria**, Vahl.

Sparingly introduced along Lake Erie. Near Port Colborne, Ont. (*David F. Day*.) Malden, Ont. (*MacLagan*.)

LI. DIPSACEÆ. TEASEL FAMILY.

260. DIPSACUS, Linn. (TEASEL.)

(957.) **D. sylvestris**, Mill. Wild Teasel.

Introduced. Very abundant where found, but local. Along roadsides, frequent in the counties of Prince Edward, Hastings and North-

umberland, Ont. (*Macoun.*) Niagara Falls and vicinity of London, Ont. (*Burgess.*) Port Dover, Ont. (*Millman.*) North Pelham, Ont. (*McGill Coll. Herb.*) Hamilton, Ont. (*Fletcher.*)

LII. COMPOSITÆ. COMPOSITE FAMILY.

261. VERNONIA, Schreb. (IRON-WEED.)

(958.) **V. Noveboracensis**, Willd.

V. præalta, Hook. Fl. I., 304.

Fields and roadsides south-western Ontario. Canada. (*Pursh.*) Close to the railway station at Essex Centre, Ont. (*Macoun.*) Malden, Ont. (*Maclagan.*)

262. EUPATORIUM, Linn. (THOROUGH-WORT.)

(959.) **E. purpureum**, Linn. Joe-Pye Weed.

E. maculatum, Hook. Fl. I., 305.

E. punctatum, Willd. Pursh Fl. II., 515.

E. amœnum, Pursh Fl. II., 514.

E. falcatum, Michx. Fl. II., 99.

Low meadows along streams and in river valleys. Extending from Anticosti, Nova Scotia and New Brunswick westward to the Rocky Mountains and northward to the Clear Water River. Lat. 57°. (*Macoun.*) Ladner's Landing, B.C. (*Fletcher.*)

(960.) **E. perfoliatum**, Linn. Boneset.

Low meadows and along small streams, quite common. Nova Scotia and New Brunswick. Extending to the Lake of the Woods. (*Dawson.*)

(961.) **E. ageratoides**, Linn. White Snake-root.

E. urticæfolium, Riech. Michx. Fl. II., 100.

Rich soil in damp woods, abundant in Ontario. In rich soil on the banks of the Restigouche, N.B. (*Fowler's Cat.*) Common in Quebec and Ontario, extending to Owen Sound. (*Macoun.*)

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*Excluded Species.***E. rotundifolium, Linn.**

This species is credited to Canada by Pursh and Goldie in Hooker Fl. I. 304. Gray says it extends from Rhode Island to Virginia along the coast.

263. MIKANIA, Willd. (CLIMBING HEMP-WEED.)**(962.) M. scandens, Linn.**

Eupatorium scandens, Linn. Michx. Fl. II., 97.

Moist shady places along streams, western Ontario. Malden. Ont. (*MacLagan.*)

264. BRICKELLIA, Ell.**(963.) B. oblongifolia, Nutt.**

On mountain slopes along the southern boundary of British Columbia. (*Lyll.*)

(964.) B. grandiflora, Nutt.

Eupatorium (?) grandiflorum, Hook. Fl. II., 26.

Rocky banks of streams in the Rocky Mountains. South Kootanie Pass. 49th parallel. (*Dawson.*)

265. LIATRIS, Schreb. (BUTTON SNAKE-ROOT.)**(965.) L. cylindracea, Michx. Blazing Star.**

L. spicata, Willd. in Saunders' List of London Plants.

L. squarrosa, Willd. Hook. Fl. I., 306.

Dry, sandy or gravelly soil throughout western Ontario. On sandy soil Rice Lake Plains, also abundant at Castleton, Ont. (*Macoun.*) Common at London in the cemetery, and at Cove, also at Amherstburgh, Ont. (*Saunders & Burgess.*) Anderton, Ont. (*MacLagan.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Francis, Sable River, Lake Huron. (*Ami.*) East side of La Cloche Island, Georgian Bay, rocky prairie land. (*J. Bell.*)

(966.) **L. scariosa**, Willd. Blazing Star.

L. squarrosula, Michx. Fl. II., 92.

Very common on some parts of the western prairie region, especially along the borders of ponds and marshes. This is a very beautiful plant and one well worthy of cultivation. (*Macoun.*) Malden and Sandwich, Ont. (*MacLagan.*) The preceding species is probably meant here.

(967.) **L. punctata**, Hook.

Much more abundant than the preceding, and extending from the Lake of the Woods (*Macoun*) to the foot-hills of the Rocky Mountains. (*Dawson.*) This species prefers dry gravelly soil in the east, but westward it grows on any dry soil. (*Macoun.*) On the Saskatchewan Plains and on the Red Deer and Eagle Hills, on dry soils. (*Douglas.*)

266. CUTIERREZIA, Lagasca.(968.) **C. Euthamiæ**, Torr. & Gray Fl. II., 193.

Brachyris Euthamiæ, Nutt. Hook. Fl. II., 23.

Solidago Sarothræ, Pursh Fl. II., 540.

S. tenuifolia, Pursh. Dawson Bound. Rep. 366.

Very abundant on much of the dry open prairie, and especially so in and around the Cypress Hills. (*Macoun.*) High grounds of the Saskatchewan and Red Rivers. (*Douglas.*) From Turtle Mountain westward along the 49th parallel. Represents *Solidago lanceolata* on the dry open plains. Stems often many together from a woody caudex, rarely attaining a height greater than eight inches. (*Dawson.*)

267. CRINDELIA, Willd.(969.) **C. squarrosa**, Dunal.

Donia squarrosa, Pursh Fl. II., 559.

Very abundant on saline soil around ponds and in brackish marshy places extending from the eastern border of the prairie region through the Rocky Mountains to the Fraser River in British Columbia. (*Macoun.*) Woody country, Lat. 54-64. (*Richardson.*) Abundant on the banks of the Saskatchewan, between Carlton and Edmonton. (*Drummond.*) Plains of the Red River and valleys of the Rocky Mountains, on the east side. (*Douglas.*) From the Souris to the Milk River on the 49th parallel; also on the Chilcoten River, B. C. (*Dawson.*)

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(970.) **C. integrifolia**, DC.*Donia glutinosa*, Hook. Fl. II, 25.

Common along the seashore at the race course near Victoria, Vancouver Island. (*Macoun*.) Queen Charlotte Islands. (*Dawson*.) Nutka. (*Scouler*.)

(971.) **C. stricta**, DC.

In the Botany of California this and the preceding species are united, but at present I prefer to keep them separate, as in our specimens they appear to be distinct. Queen Charlotte Islands: (*Dawson*.) Along the coast at Victoria, Vancouver Island. (*Fletcher*.)

268. CHRYSOPSIS, Nutt.(972.) **C. villosa**, Nutt.*Anellus villosus*, Pursh Fl. II, 564.*Diplopappus villosus*, Hook. Fl. II, 22.

Dry gravelly soil throughout the prairie region and extending north-westward to the Peace River prairies, particularly abundant at the north-west end of Lesser Slave Lake. (*Macoun*.) Common on the Red Deer and Eagle Hills of the North Saskatchewan and banks of the Assiniboine River; also on the low hills west of the Rocky Mountains, to the Pacific Ocean, on dry, rocky or sandy soil. (*Douglas*.) Rising ground east of Red River prairie, Turtle Mountain, open prairie, and westward on the 49th parallel; also Milk River Ridge, and on dry slopes to Flathead River, B.C. (*Dawson*.)

Var. **hispida**, Gray.*Diplopappus hispidus*, Hook. Fl. II, 22.*Chrysopsis hispida*, Torr. & Gray Fl. II, 255.*C. hirsuta*, Macoun's Cat., No. 940.

On dry gravelly soil rather rare. At Fort Carlton, on the Saskatchewan. (*Richardson*.) Cypress Hills and near the Hand Hills, N.W.T.; a resinous glandular form covered, on stem and leaves, with long white hairs was collected at "Limestone Point," near C  che Creek, B.C. (*Macoun* & *Fletcher*.) Abundant on the Missouri C  teau, and at Wood Mountain, 49th parallel. (*Dawson*.)

269. HAPLOPAPPUS, Cass.(973.) **H. spinulosus**, DC.*Diplopappus spinulosus*, DC. Macoun's Cat., No. 932.*Anellus spinulosus*, Pursh Fl. II, 564.*Diplopappus pinnatifidus*, Hook. Fl. II, 22.

Abundant on the dry prairie from Moose Mountain westward and

north-westward to Edmonton. (*Macoun.*) Turtle Mountain and westward to the Rocky Mountains on dry prairie, 49th parallel. (*Dawson.*) Rocky Mountains, near Jasper's Lake, Lat. 54°. (*Drummond.*)

(974.) **H. lanceolatus**, Torr. & Gray.

Aplopappus lanceolatus, Torr. & Gray. Macoun's Cat., No. 931.

Donia lanceolata, Hook. Fl. II., 25.

On saline marshy prairie, not uncommon, from Manitoba westward to the base of the Rocky Mountains. (*Macoun.*) Saskatchewan River between Carlton and Edmonton. (*Drummond.*) First branch of Milk River on the 49th parallel. (*Dawson.*)

(975.) **H. uniflorus**, Torr. & Gray.

Aplopappus uniflorus, Torr. & Gray. Macoun's Cat., No. 933.

Donia uniflora, Hook. Fl. II., 25.

Plains of the Saskatchewan and prairies of the Rocky Mountains. (*Drummond.*) We are unacquainted with this species.

(976.) **H. Nuttallii**, Torr. & Gray.

Aplopappus Nuttallii, Torr. & Gray. Macoun's Cat., No. 934.

On dry clay, or gravelly banks, not common. On gravel ridges west of Moose Mountain; at the eastern end of the Cypress Hills, and the Elbow of the South Saskatchewan, N. W. T. (*Macoun.*) Dry bank at the Crossing of the White Mud River or Frenchman's Creek, 49th parallel. (*Dawson.*) On the Saskatchewan. (*Bourgeau.*)

(977.) **H. acaulis**, Gray, Var. **glabratus**, Watson.

Aplopappus acaulis, Gray, var. Macoun's Cat., No. 935.

Aplopappus, Sp. I. Dawson Bound. Rep. 363.

Stenotus caespitosus, Nutt. Torr. & Gray Fl. II., 238.

On dry clay, or gravel cliffs or ridges. Elbow of South Saskatchewan and on the eastern end of the Cypress Hills, highest point of ridge. (*Macoun.*) Short Creek, Souris River, 49th parallel, growing in dense tufts. (*Dawson.*)

270. BICELOVIA, DC.

(978.) **B. graveolens**, Gray. Var. **hololeuca**, Gray.

Linosyris graveolens, var. β . Torr. & Gray. Macoun's Cat., No. 929.

L. Howardii, Parry. Dawson Bound. Rep. 365.

Chrysocoma nauscosa, Pursh Fl. II., 517, in part.

On denuded and alkaline soil that is very arid. Banks of Cottonwood Creek, 18 miles south of Fort Walsh; also, on an arid tract south-east of Island Lake, near Medicine Hat, N.W.T. (*Macoun.*) Second

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Branch of Milk River on the 49th parallel; also, on the Chilcoten River, west of the Fraser River, B.C. (*Dawson*.)

(979.) **B. Douglasii**, Gray.

Linosyris viscidiflora, Torr. & Gray. Macoun's Cat., No. 930.

Crinitaria viscidiflora, Hook. Fl. II., 24.

Bigelovia viscidiflora, DC. Prodr. VII., 279.

Barren or arid soil. In the upper valley of the Columbia within British Columbia. (*Douglas*.) On arid soil near C  che Creek, B.C. (*Macoun* & *Fletcher*.)

271. SOLIDAGO, Linn. (GOLDEN-ROD.)

(980.) **S. squarrosa**, Muhl.

In woods and thickets and on rocky banks of rivers. Restigouche, N.B. (*Chalmers*.) Kouchibouguac, N.B. (*Fowler's Cat.*) Andover, Victoria, Co., N.B. (*Wetmore*.) Common throughout Quebec and Ontario, especially in the northern part of the latter province. Lake Mistassini. (*J. Richardson*.)

(981.) **S. c  sia**, Linn.

In rich woods near Billings Bridge, Ottawa. (*Miss I. Grant*.) These are the only specimens of the normal form I have seen.

Var. **axillaris**, Gray.

S. axillaris, Pursh Fl. II., 542.

S. flexicaulis, Hook. Fl. II., 4.

Moist, rich woodlands, and slopes of ravines in open woods. Halifax, N.S. (*Sommers*.) North Mountain woods near Annapolis, N.S. (*Macoun*.) C  t   St. Paul, near Montreal. (*Holmes*.) Belk  il Mountain, Q. (*MacLagan*.) Rather common throughout Ontario and extending westward to Owen Sound. (*Macoun*.)

(982.) **S. latifolia**, Linn.

S. flexicaulis, Linn, var. *latifolia*, Hook. Fl. II., 5.

Moist shaded banks in woods and borders of ravines. Common from Nova Scotia and New Brunswick throughout Quebec and Ontario to the Georgian Bay.

(983.) **S. bicolor**, Linn.

Dry thickets and river banks and old fields, rather common. Nova Scotia, New Brunswick, Ontario, and westward to the Saskatchewan, also Red Deer River, Lat. 53  . (*Macoun*.)

Var. *concolor*, Torr. & Gray.

River banks and along the sea coast. Pictou, N. S. (*McKay*.) Tatagouche River, Gloucester Co., N.B. (*Chalmers*.) Banks of Jupiter River, Anticosti; Rivière Ste. Anne des Monts, Gaspé; and rocky woods along Partridge Lake, Addington Co., Ont. (*Macoun*.) Below Quebec. (*MacLagan*.) The commoner form around Ottawa. (*Fletcher Fl. Ott.*) Kingston, Ont. (*Burgess*.)

Var. *lanata*, Gray.

S. lanata, Hook. Fl. II., 4.

Plains of the Saskatchewan, near the Rocky Mountains. (*Drummond*.)

(984.) *S. macrophylla*, Pursh.

S. thyrsoides, E. Meyer. Gray, Man. Ed. V., 241. Macoun's Cat., No. 927.

S. leiocarpa, DC. Prodr. V., 339.

S. Virgaurea, Pursh Fl. II., 542.

Mountain woods, and farther north along streams. Labrador. (*McGill Coll. Herb.*) Beside a densely shaded brook, Bass River, N.B. (*Fowler's Cat.*) Campbellton, N.B. (*Chalmers*.) Very abundant in open spruce woods, Anticosti; brook sides Pirate's Cove, Straits of Canso, in a ravine at Whyecomagh, Cape Breton. Very common on the Gaspé peninsula and up the sides of the Shickshock Mountains; Michipicoten Island at the wooding station, Lake Superior. (*Macoun*.) Lake Mistassini, Q. (*J. Richardson*.) A form with almost sessile leaves and large, axillary spikes of flowers, collected at Tail Creek, on the Red Deer River, Long. 113° west, is doubtfully referred to this species. (*Macoun*.)

(985.) *S. multiradiata*, Ait.

S. Virgaurea, var. *multiradiata*, Torr. & Gray Fl. II., 207.

On mountains or along the shores of the Gulf of St. Lawrence. Labrador. (*Morrison*.) Bow River Pass, Rocky Mountains, Lat. 51°. (*Macoun*.) Prairies of the Rocky Mountains, Lat. 54°-56°. (*Drummond*.) Mackenzie River and Bear Lake. (*Richardson*.) Bay of Eschscholtz. (*Chamisso*.) Fort Youcon, Alaska. (*Dall*.) Bartlett's Bay, Alaska. (*Meehan*.) An imperfect specimen obtained by Dr. R. Bell at York Factory, Hudson Bay, is referred here.

Var. *scopulorum*, Gray.

S. corymbosa, Nutt. Macoun's Cat., No. 905.

South Kootanie Pass, 7,000 feet alt., and on the north branch of the Old Man River within the Rocky Mountains; also on Dean or Salmon River, near Salmon House, B.C. (*Dawson*.)

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(986.) ***S. Virgaurea*, Linn. var. *alpina*, Bigel.**

S. Virgaurea, Hook. Fl. II., 5.

Summit of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun*.) Torrey & Gray and Hooker give many localities for the above three forms, but it is very likely that the more arctic and alpine are all referable to *S. multiradiata* and its variety *scopulorum*. The Lake Superior specimens referred to this form evidently belong to the next.

(987.) ***S. humilis*, Pursh, not Desf.**

On rocky shores of the ocean and lakes; frequent northward. Fort Albany, Hudson Bay, and Newfoundland. (*Herb. Banks.*) Ungava, Hudson Strait, coast of Labrador. (*McGill Coll. Herb.*) South-West Point, and mouth of Jupiter River, Anticosti. Bake-apple Bog, Sydney Mines, Cape Breton. North shore of Lake Superior above Michipicotin. (*Macoun*.) In the country north-east of Lake Superior, and on Gros Cap on the shore of the lake. (*R. Bell.*) Wooded country between Lat. 54°-64°. (*Richardson*.)

Var. β , Torr. & Gray Fl. II., 206.

S. stricta, Hook. Fl. II., 4, in part.

Abundant on the prairie, more especially northward and westward, to the base of the Rocky Mountains. (*Macoun*.) Fort Carlton on the Saskatchewan. (*Drummond*.) Wooded country between Lat. 54°-64°. (*Richardson*.) Turtle Mountain, 49th parallel, N.W.T., Sand Creek, in the Kootanie Valley; and, on the Chilcoten River, west of the Fraser, B.C. (*Dawson*.)

(988.) ***S. confertiflora*, DC.**

S. glutinosa, Nutt. Trans. Amer. Phil. Soc. (N. series) VII., 328.

Nootka and Mulgrave Sound. (*De Candolle*.) Along the Fraser and Thompson rivers at Lytton and Spence's Bridge, B. C. (*Fletcher*.) Ounalashka, Cape Mulgrave and Kodiak. (*Rothr. Alask.*)

(989.) ***S. sempervirens*, Linn.**

Salt marshes along the coast of New Brunswick, rather common. (*Fowler's Cat.*) Halifax, Pictou, and Truro, and doubtless common around the coasts of Nova Scotia. Frequent along the Bay of Chaleur and up the Gaspé Coast to Petit Metis. (*Macoun*.)

(990.) ***S. puberula*, Nutt.**

Dry sandy soil, common in New Brunswick. (*Fowler's Cat.*) St. Stephen, N.B. (*Vroom*.)

- (991.) **S. odora**, Ait. Sweet Golden-rod.

S. retrorsa, Michx. Fl. II., 3.

Borders of thickets in dry or sandy soil. Near Grand Lake, N.S. (*Sommers*.) Fields near Hamilton, Ont. (*Logie*.) I have never seen a Canadian specimen of this species and doubtful of its occurrence within our limits. (*Macoun*.)

- (992.) **S. uliginosa**, Nutt. Swamp Golden-rod.

S. stricta, Hook. Fl. II., 4, in part. Macoun's Cat., No. 909.

S. stricta, Torr. & Gray Fl. II., 204, not Ait.

Sphagnum swamps and tamarack bogs. Newfoundland, Anticosti, Nova Scotia, New Brunswick and thence westward to and beyond the Rocky Mountains in the wooded country.

- (993.) **S. speciosa**, Nutt.

S. sempervirens, Michx. Fl. II., 119, not of Linn.

Borders of woods, near Pictou, N.S. (*McKay*.) St. Stephen, N.B. (*Vroom*.) To be looked for in the Maritime provinces. It is probable that this species is often referred to the preceding one.

- (994.) **S. patula**, Muhl.

S. asperata, Pursh Fl. II., 538.

Swamps, meadows, and moist woods. Canada. (*Herb. Banks, Hooker & Pursh*.) Swamps in the vicinity of London, Ont. (*Burgess*.)

- (995.) **S. rugosa**, Mill.

S. altissima, Hook. Fl. II., 2. Macoun's Cat., No. 916.

S. altissima, var. β . Torr. & Gray Fl. II., 216.

S. villosa, Pursh Fl. II., 537. Hook. Fl. II., 2.

Common in meadows, thickets and open woods and on the borders of fields and roads. Border of fields near Pictou, N.S. (*McKay*.) Halifax, N.S. (*Sommers*.) New Brunswick. (*Fowler's Cat*.) Common in Quebec and Ontario and extending to Thunder Bay, Lake Superior.

- (996.) **S. neglecta**, Torr. & Gray Fl. II., 213.

In swamps and wet beaver-meadows. St. John Co., N.B. (*Hay*.) Swamps in the northern part of Hastings and Northumberland Counties, Ont. (*Macoun*.) Steep gravelly banks. Niagara Falls. (*Burgess*.) Damp wooded banks of the Gatineau at Ironsides, Q. (*Fletcher*.)

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(997.) **S. Terræ-Novæ**, Torr. & Gray Fl. II., 206.

In bogs, Newfoundland. (*Pylaie*.) Specimens obtained at Salt Lake, Anticosti, in August, 1883, may belong here. (*Macoun*.) Gray remarks that this species is still insufficiently known.

(998.) **S. arguta**, Ait.

S. Muhlenbergii, Torr. & Gray Fl. II., 214. Macoun's Cat., No. 921.

Borders of thickets and in open pine or sandy woods. Hastings and Northumberland counties, Ont. (*Macoun*.) Vicinity of Hamilton, Ont. (*Logie*.) St. Catharines and Chippawa, Ont. (*MacLagan*.) Vicinity of London, Ont. (*Burgess*.)

(999.) **S. juncea**, Ait.

S. arguta, Torr. & Gray Fl. II., 214. Macoun's Cat., No. 917.

Common in meadows and fields and in partly cleared land. Woodstock and St. Stephen, N.B. (*Vroom*.) Smithtown, King's Co., N.B. (*Brittain*.) Near St. John, N.B. (*Hay*.) Common throughout Quebec and Ontario, and westward to the Rocky Mountains. (*Macoun*.) Wooded country between Lat. 54°-64°. (*Richardson*.) Our form is principally the variety *scabrella* of Torr. & Gray.

(1000.) **S. Missouriensis**, Nutt.

Dry prairies, not uncommon. Turtle Mountain, Man. (*Dawson*.) Dry prairies of the Assiniboine, Man. (*Douglas*.) Frequent on the prairie west of Fort Ellice to the Rocky Mountains. (*Macoun*.)

Var. **montana**, Gray.

This form is the common one on the Canadian prairies and extends westward to the Rocky Mountain forests. (*Macoun*.) Milk River near the 49th parallel. (*Dawson*.) A broad-leaved form which may be var. *extraria*, Gray, has been gathered near the Hand Hills. (*Macoun*.)

(1001.) **S. serotina**, Ait.

S. gigantea, Torr. & Gray Fl. II., 225. Macoun's Cat., No. 912.

Borders of woods and in fields eastward, in copse-wood and borders of coulées on the western prairie. Grand Lake, N. S. (*Sommers*.) Pictou, N. S. (*McKay*.) St. John County, N. B. (*Fowler's Cat*.) Vicinity of Ottawa at Billings' Bridge and Hull. (*Fletcher Fl. Ott*.) Rocky bed of the Trent at Heely Falls, Northumberland Co., and in the neighborhood of Belleville, Ont. (*Macoun*.) Niagara district and Malden, Ont. (*MacLagan*.) Near the Three Buttes, and Second Branch of Milk River, 49th parallel, N.W.T. (*Dawson*.) South of Battleford, and in ravines bordering on Bow River. (*Macoun*.) Plains of the Red River. (*Douglas*.) Saskatchewan River. (*Drummond*.)

Var. **gigantea**, Gray.

S. serotina, Torr. & Gray Fl. II., 224. Macoun's Cat., No. 911.

Borders of thickets and low grounds; common throughout Canada, Newfoundland, Nova Scotia, New Brunswick, and westward to the Pacific; also northward on the Peace River to Lat. 59°. (*Macoun.*)

(1002.) **S. lepida**, DC.

Along the north-west coast to Alaska. (*Gray.*) Queen Charlotte Islands. 1878. (*Dawson.*) Nootka. (*Henke.*)

(1003.) **S. elongata**, Nutt.

S. elata, Hook. Fl. II., 5.

S. Canadensis, Hook. Fl. II., 1. As to Arctic specimens.

Arctic America, from Slave Lake to Fort Franklin, on the Mackenzie River. (*Richardson.*) Forms approaching *S. Canadensis* have been collected by myself and Dr. Dawson along the eastern base of the Rocky Mountains and northward to Peace River. (*Macoun.*) Chilcoten River, west of the Fraser, B.C. (*Dawson.*) Straits of De Fuca. (*Scouler.*) Abundant on Vancouver Island and up the Fraser and Thompson rivers, B. C. (*Fletcher.*) Victoria, Vancouver Island. (*Meehan.*)

(1004.) **S. Canadensis**, Linn. Common Golden-rod.

Our commonest Golden-rod extending under one form or another from the Atlantic to the Pacific. North to Fort Franklin on the Mackenzie. (*Richardson.*)

Var. **procera**, Torr. & Gray.

S. procera, Ait. Hook. Fl. II., 2.

Apparently not rare in the Atlantic provinces. Jupiter River, Anticosti. (*Macoun.*) New Brunswick. (*Fowler.*) Canada. (*Pursh.*) Vicinity of Ottawa. (*Fletcher.*) Wooded country between Lat. 54°-64°. (*Richardson.*)

Var. **scabra**, Torr. & Gray.

This form, or one taken for it, is common on the open prairie in the North-west Territory. South-east of Hurricane Hills, and Souris Plain. (*J. M. Macoun C. P. R. Coll.*) Common south of Battleford and around the Hand Hills, and west to Morley. (*Macoun.*)

(1005.) **S. nemoralis**, Ait.

Dry or sterile fields and sandy or gravelly thickets or prairies, common. From Anticosti westward to the Rocky Mountains. The prairie

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specimens are generally shorter and mostly with entire leaves, being var. *β*. Torr. & Gray.

Var. **incana**, Gray.

S. incana, Torr. & Gray Fl. II., 221.

Dry, sterile soil from Wood Mountain westward, especially north and west of the Cypress Hills, N.W.T. (*Macoun*.) Wood Mountain and westward along the 49th parallel. (*Burgess*.)

(1006.) **S. rigida**, Linn.

On dry or sandy soil. Islands in the Detroit River. (*MacLagan*) Dry sandy soil, edge of a field, near Fairmount, London, Ont. (*Burgess*.) Very common in the western prairie region extending northward to Peace River, and west to the Rocky Mountains. (*Macoun*.)

(1007.) **S. Ohioensis**, Riddell.

Wet grassy places along the shore of Red Bay, Lake Huron. (*Macoun*.)

(1008.) **S. Houghtonii**, Torr. & Gray.

Swampy shores of Lake Huron around Chicken and Red Bays, and on the Fishing Islands. (*Macoun*.)

(1009.) **S. occidentalis**, Nutt.

S. lanceolata, Hook. Fl. II., 6, in part.

To be looked for along the southern boundary of British Columbia.

(1010.) **S. lanceolata**, Linn.

Very abundant along the shores of lakes and rivers from the Atlantic provinces and the islands in the Gulf of St. Lawrence to the Rocky Mountains and north to Lat. 64°. Quite common on the prairies near pools of water and in the beds of coulées. (*Macoun*.) Western, prairie, specimens have broad lanceolate five-nerved obtuse leaves, and seem to run into *S. occidentalis*.

272. **BELLIS**, Linn. DAISY.

(1011.) **B. perennis**, Linn. Garden Daisy.

Introduced. On ballast heaps North Sydney, Cape Breton. (*Macoun*.) In lawns at Clifton, Ont. (*David F. Day*.) Apparently at home in meadows and pastures around Victoria, Vancouver Island. (*Macoun & Fletcher*.)

273. TOWNSENDIA, Hook.**(1012.) T. florifer, Gray.***Erigeron (?) florifer*, Hook. Fl. II., 20.*Stenotus florifer*, Torr. & Gray Fl. II., 238.

Dry rocky or gravelly soil along the Milk River and on the North Branch of the North Fork of the Old Man River alt., 5,000 feet, N.W.T. (*Dawson.*)

(1013.) T. sericea, Hook. Fl. II., 16.*Aster (?) exscapus*, Richards. in Frankl. Journ., 32.

Vicinity of Fort Carlton on the Saskatchewan. (*Richardson.*) Rare upon the dry banks of the Saskatchewan, and among the Rocky Mountains, Lat. 54°. (*Drummond.*) Rocky Mountains. (*Bourgeau.*)

274. SERICOCARPUS, Nees. (WHITE-TOPPED ASTER.)**(1014.) S. solidagineus, Nees.***Aster solidagineus*, Michx. Fl. II., 108.*A. solidaginoides*, Pursh Fl. II., 543.

Moist woodlands, Canada. (*Torr. & Gray Fl. II., 102.*) Near Montreal. (*Cleghorn in Hooker.*) We have no other record of this species and consider its occurrence within our limits very doubtful. (*Macoun.*)

275. ASTER, Linn. (STAR-WORT. ASTER.)**(1015.) A. tanacetifolius, HBK.***Machaeranthera tanacetifolia*, Nees. Hook. Bot. Mag. t. 4624.

On arid soil along the Milk River, near the south-western boundary of the prairie region, rare. (*Dawson.*)

(1016.) A. canescens, Pursh.*Machaeranthera canescens*, Gray. Macoun's Cat., No. 1109.*Dieteria canescens*, Nutt. Torr. & Gray Fl. II., 101.

On arid, argillaceous soils in the south-western part of the prairie region. South of Wood Mountain, in dry clay-bottomed valleys, on sub-saline soil. (*Dawson.*) On dry saline soil, where there is little vegetation, around the Hand Hills, and along the Red Deer River to the south of them. (*Macoun.*)

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(1017.) **A. corymbosus**, Ait.

Eurybia corymbosa, Cass. Hook. Fl. II., 14.

Biotia corymbosa, DC. Prodr. V., 265.

Rather open woodlands on rich soil; extending from the western part of Quebec to the Kaministiquia River, west of Lake Superior. (*Macoun.*)

(1018.) **A. macrophyllum**, Linn.

Eurybia macrophylla, Hook. Fl. II., 14.

Biotia macrophylla, DC. Prodr. V., 265.

More abundant than the last and with a much wider range and the same habitat. Windsor, N.S. (*How.*) Woods and borders of fields. New Brunswick. (*Fowler's Cat.*) Abundant throughout Quebec and Ontario, and extending west to Norway House at the foot of Lake Winnipeg. (*Richardson.*)

(1019.) **A. radula**, Ait.

Low wet meadows or woods eastward along the coast. Labrador. (*Butler.*) Moist copses and low grounds. Nova Scotia and Newfoundland. (*Aiton.*) In boggy ground at North Sydney, Cape Breton, and in wet meadows at Louisburg, C. B. (*Macoun.*) Wet boggy places, common, N.B. (*Fowler's Cat.*)

Var. **strictus**, Gray.

Aster strictus, Pursh Fl. II., 556, not of Poir.

A. biflorus, Michx. Torr. & Gray Fl. II., 106.

Around lakes; and rivers which flow into Hudson Bay. (*Michaux.*) Labrador. (*Pursh.*) In the valley of Jupiter River, Anticosti. (*Macoun.*) Upper Stewiacke, N.S. (*McGill Coll. Herb.*)

(1020.) **A. montanus**, Richards.

A. Richardsonii, Spreng. Hook. Fl. II., 7.

On gravel bars in river valleys and along the banks of such rivers. Barren country from Lat. 64° to the Arctic Sea. (*Richardson.*) Rocky Mountains. (*Drummond.*) Bow River from below Calgary to the Pass above Morley. Very abundant on Peace River, both above and below Dunvegan. (*Macoun.*) Alpine, Rocky Mountains. (*Bourgeau.*)

Var. **arcticus**, Torr. & Gray.

A. Sibiricus, Fischer in Herb. of Hooker.

Kotzebue Sound, Ounalashka and Point Barrow. (*Rothr Alask.*) Sources of the Youcon. (*McGill Coll. Herb.*) Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*)

Var. **giganteus**, Torr. & Gray Fl. II., 107.

A. Richardsonii, β , *giganteus*, Hook. Fl. II., 7.

About Fort Franklin on the Mackenzie River. (*Richardson.*) Along the Mackenzie River. (*McGill Coll. Herb.*)

(1021.) **A. conspicuus**, Lindl.

Woods and grassy thickets, especially on the Saskatchewan. From Carlton on the Saskatchewan, Lat. 53°, to the Rocky Mountains. (*Drummond.*) Slope of the South Kootanie Pass, Rocky Mountains. (*Dawson.*) Abundant in ravines on the Cypress Hills and in woods and thickets along the eastern base of the Rocky Mountains, extending to the Peace River. (*Macoun.*) Rocky Mountains. (*Bourgeau.*)

(1022.) **A. radulinus**, Gray.

In thickets on the Chilcoten River, west of the Fraser, B.C. (*Dawson.*) On the side of a hill by a spring, Fraser River Crossing of Canadian Pacific Railway, B.C. (*Fletcher.*) These specimens may belong to the preceding, as they are far from being satisfactory.

(1023.) **A. spathulatus**, Lindl.

Arctic America. Bear Lake and Fort Franklin on the Mackenzie River. (*Richardson.*)

(1024.) **A. adscendens**, Lindl.

Dry and grassy places on the western prairies. Banks of the Saskatchewan towards the Rocky Mountains. (*Drummond.*) Milk River near the 49th parallel. (*Dawson.*) Common around the Cypress Hills and on the prairie westward, also west of the Touchwood Hills, by Carlton and Fort Pitt to Edmonton. (*Macoun.*)

(1025.) **A. Douglasii**, Lindl.

Common on the north-west coast and Straits of De Fuca. (*Scouler.*) Queen Charlotte Islands. (*Dawson.*) Vicinity of Victoria and on the mainland at various points on the Fraser and Thompson rivers. (*Fletcher.*) More than one species may be included in this as our western asters are very little known.

(1026.) **A. sericeus**, Vent.

A. argenteus, Michx. Fl. II., 111.

Dry banks of rivers. On sandy soil at the mouth of Rainy River, and on islands in the Lake of the Woods. (*Macoun.*)

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(1027.) **A. Menziesii**, Lindl. Hook. Fl. II., 12.

North-west Coast of America. (*Menzies*.) We know nothing of this species.

(1028.) **A. patens**, Ait.

Dry soil and along fences. New Brunswick. (*Matthew*.) Vicinity of Hamilton, Ont. (*Logie*.) This is a very doubtful species and needs looking after.

(1029.) **A. lævis**, Linn.

A. amplexicaulis, Willd. Hook. Fl. II., 13.

A. rubricaulis, Lam. Hook. Fl. II., 13.

A. cyanus, Hoffm. Hook. Fl. II., 13.

A. concinnus, Hooker Fl. II., 13.

A. strictus, Nees, var. *angustifolius*, Lindl. Hook. Fl. II., 13.

In rather dry soil near London, Ont. (*Burgess*.) Very abundant in the prairie region extending from its eastern border to far within the Rocky Mountains and northward to lat. 58° on the Peace River. (*Macoun*.) From the Saskatchewan to the Rocky Mountains. (*Drummond*.) Abundant along the 49th parallel. (*Dawson*.)

(1030.) **A. lævigatus**, Lam.

A. lævis, Linn. var. *lævigatus*, Willd. Torr. & Gray Fl. II., 116.

Dr. Gray says of this species in the proceedings of the American Academy of Arts and Sciences, Vol. XVII., page 169. "Unequivocal indigenous specimens are hardly known; they are to be sought in Lower Canada and Nova Scotia." A careful examination of the Gaspé peninsula and a large extent of Nova Scotia and Cape Breton by myself, and the examinations of local collectors, show no plant approaching this species except forms that seem to lie between *A. tardiflorus*, L., and *A. longifolius*, Lam. Specimens of an aster which has the appearance of this species have been found at Chicken Bay, Lake Huron. (*Macoun*.) Vicinity of London, Ont. (*Burgess*.) Woods near Barrie, Ont. (*Spotten*.) This is the long-leaved form with almost linear leaves.

Var. — (?)

This is a form with hairy peduncles, especially at the base of the flower, ciliate scales and generally hairy in the axils of the leaves, which are also ciliate. In the foot-hills of the Rocky Mountains, 49th parallel; also, in the lower part of the South Kootanie Pass. (*Dawson*.)

(1031.) **A. azureus**, Lindl.

Dry sandy soil rather scarce. Wesleyan Methodist burying ground, Belleville; also, Rice Lake Plains, Ont. (*Macoun*.) Vicinity of

Hamilton, Ont. (*Logie*.) Malden, Ont. (*MacLagan*.) Not uncommon, London, Ont. (*Saunders*.)

(1032.) **A. undulatus**, Linn.

A. diversifolius, Michx. Fl. II., 113.

Dry woodlands and thickets, not common. Petitiocidae, N. B. (*Brittain*.) Rice Lake Plains, common. (*Macoun*.) Vicinity of Hamilton. (*Logie*.) Sandwich, Ont. (*MacLagan*.)

(1033.) **A. cordifolius**, Linn.

Woodlands and thickets, and in fence corners. Pietou, N.S. (*McKay*.) In woods near Annapolis, N. S. (*Macoun*.) Very common in woodlands, N.B. (*Fowler's Cat*.) Common throughout Quebec and Ontario, and extending westward to the Georgian Bay.

(1034.) **A. Lindleyanus**, Torr. & Gray.

A. paniculatus, Ait. var. δ . Hook. Fl. II., 8.

Cool wet woods throughout the northern forest region. Lake Mistassini, northern Quebec. (*J. Richardson*.) Common on Anticosti around Jupiter River, scarce along the Gaspé coast but frequent along the travelled road in rear of Point Fame lighthouse. Doubtless common in northern Quebec and westward to the Saskatchewan, where it becomes abundant and is found chiefly in damp woods to the base of the Rocky Mountains and northward to Little Slave Lake and beyond. (*Macoun*.) On the Red and Assiniboine rivers, Man. (*Douglas*.) Slave Lake. (*Richardson*.) Dunvegan, Peace River, N.W.T.; and on the Chilcoten River, west of the Fraser River, B.C. (*Dawson*)

Var. γ . Torr. & Gray.

A. praeox, Lindl. Hook. Fl. II., 9. Macoun's Cat., No. 847.

A. ciliolatus, Lindl. Hook. Fl. II., 9.

This is the form with thin membranaceous leaves. It seems to grow principally in shady grassy places, and is possibly more northern in its range. Red Deer River, near the Hand Hills, and along the Saskatchewan from Carlton to Edmonton; also on the Porcupine Mountain, Man. (*Macoun*.) Slave Lake and Fort Franklin on the Mackenzie River. (*Richardson*.)

(1035.) **A. sagittifolius**, Willd.

Sandy or dry woods and thickets and along fences, rather local. Petitiocidae, N.B. (*Brittain*.) Common in the neighborhood of Belleville and westward through Northumberland Co., Ont. (*Macoun*.) Niagara and Malden. (*MacLagan*.) Vicinity of London, Ont. (*Burgess*.)

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(1036.) **A. ericoides**, Ait.

A. sparsiflorus, Michx. Fl. II., 113.

Barren soil and along lake shores or river margins. Toronto Island and along the sandy shore of Lake Huron. (*Macoun.*) Barren soil, Canada. (*Pursh.*)

Var. **villosus**, Torr. & Gray, Fl. II., 124.

Aster villosus, Michx. Fl. II., 113.

Vicinity of Port Stanley, Ont. (*Burgess.*) A very distinct variety with hairy stem and leaves.

(1037.) **A. multiflorus**, Ait.

A. ericoides, Lam. Michx. Fl. II., 113.

Dry or barren fields, rare in Ontario. Wesleyan Methodist burying-ground, Belleville; and on the Rice Lake Plains, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Malden, Ont. (*MacLagan.*) Canada. (*Pursh.*)

Var. **stricticaulis**, Torr. & Gray Fl. II., 125.

A. ericoides, Hook. Fl. II., 12.

This is the common form of *A. multiflorus* as found throughout the prairie region. It is very abundant and in many places forms one-half of the prairie vegetation. (*Macoun.*) Red River. (*Douglas.*) Saskatchewan and towards the Rocky Mountains. (*Drummond.*) Turtle Mountain, and abundant from the Red River to the Rocky Mountains on the 49th parallel. (*Dawson.*)

Var. **commutatus**, Torr. & Gray Fl. II., 125.

A. ramulosus, var. *incano-pilosus*, Hook. Fl. II., 13.

Heads larger, fewer, and generally single on the short branches. Hand Hills on dry exposed soil, N. W. T. (*Macoun.*) On the Saskatchewan. (*Drummond.*)

(1038.) **A. falcatus**, Lindl.

A. ramulosus, Lindl. Var. *a.* Hook. Fl. II., 13.

This species seems to be only a variety of the preceding, but differs in having three-nerved leaves, with appressed pubescence and with looser and more acute involueral scales. Plains west of the Touchwood Hills and along the North Saskatchewan. (*Macoun.*) Middle Fork of North Branch of Old Man River, within the Rocky Mountains.

(Dawson.) Saskatchewan to Fort Franklin on the Mackenzie River. (Richardson.) Within the Rocky Mountains, Lat. 54°. (Drummond.) Point Barrow to Mackenzie River along the northern coast. (Roth. Alask.) At Spence's Bridge, B.C. (Fletcher.) Chilcote River, west of the Fraser River, B.C. (Dawson.)

(1039.) **A. campestris**, Nutt.

The specimen referred here is only viscid-pubescent on the upper part of the stem and especially on the involueral scales and pedicels. Chilcote River, west of the Fraser River, B.C. (Dawson.)

(1040.) **A. dumosus**, Linn.

A very obscure species in Canada. Should be looked for in the southwestern part of Ontario. Vicinity of Hamilton, Ont. (Logie.) Southwestern Ontario. (MacLagan.)

(1041.) **A. paniculatus**, Lam.

A. simplex, Torr. & Gray Fl. II., 131. Macoun's Cat., No. 852.

A. tenuifolius, Torr. & Gray Fl. II., 132, in part. Macoun's Cat., No. 870.

A. parviflorus, Hook. Fl. II., 11.

A. Lemareckianus, Hook. Fl. II., 11. Macoun's Cat., No. 853.

This species, as I understand it, includes all the forms which we in Canada have been naming *A. simplex* and *A. tenuifolius*, but besides the eastern forms, Dr. Gray has referred large-flowered western specimens to the same multiform species, and in the absence of his revision of this most difficult genus I make no attempt to separate the various forms. Borders of brooks and along rivers and in low meadows from Nova Scotia to the Rocky Mountains, and possibly west to the Coast Range in British Columbia. We have possibly two species here.

(1042.) **A. diffusus**, Hook. Fl. II., 19.

A. miser, Torr. & Gray Fl. II., 129. Macoun's Cat., No. 843.

A. pendulus, Hook. Fl. II., 12.

A. divergens, Hook. Fl. II., 11.

This is another multiform species, and although numerous varieties might be enumerated, we consider it better to leave them together until sufficient material has been collected to enable some one to speak definitely regarding the various forms. Old fields and borders of woods, along ditches and in low damp woods, extending from Nova Scotia and New Brunswick to the western part of Ontario.

(1043.) **A. salicifolius**, Ait.

A. carneus, Nees. Torr. & Gray Fl. II., 133. Macoun's Cat., No. 873.

A. laxifolius, Hook. Fl. II., 10, in part.

This is another species which may include two distinct forms or

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varieties. It has been reported from Nova Scotia (though doubtfully), and from western Ontario by MacLagan, but we have never seen an eastern specimen. Our western specimens approach *A. paniculatus* but differ in having the involueral bracts ciliate, the heads larger and the leaves wider.

(1044.) **A. junceus**, Ait.

A. luxus, var. *borealis*, Macoun's Cat., No. 850.

A. borealis, Provancher, Fl. Canad. I., 308.

A. laxifolius, Nees. Hook. Fl. II., 10. Macoun's Cat., No. 840.

A. laxifolius, var. *borealis*, Torr. & Gray Fl. II., 138.

A. bellidiflorus, Hook. Fl. II., 11.

This species, as I understand it, grows in our cold bogs and wet meadows and is generally in flower in the latter part of July. It extends from the eastern provinces to the Rocky Mountains, and is not unfrequent on wet boggy places in the prairie region. (*Macoun.*) Wooded country from Lat. 54°-64°; also, Slave Lake. (*Richardson.*) From Hudson Bay to the Rocky Mountains in swampy places. (*Drummond.*) Chilcote River, B.C. (*Dawson.*)

(1045.) **A. æstivus**, Ait.

Dr. Gray says this species is indigenous in British America, but I have no means of separating it from the preceding which very likely includes forms of it. This is named "Labrador star-wort," and is said to flower by the middle of June. Very likely both this and the preceding are the same.

(1046.) **A. Novi-Belgii**, Linn.

A. longifolius, Lam. in part for eastern specimens.

We have no specimens of this species from the eastern provinces and are not certain of its occurrence there, but as Dr. Gray states it has been confounded with *A. longifolius* it will, in all probability, be found within their limits. The western form, which may be the *A. asper*, Lindl., referred to on page 10, Hook. Fl. Vol. II., was obtained at Morley in the valley of Bow River. (*Macoun.*)

(1047.) **A. tardiflorus**, Linn.

A. Cornuti, Nees. Hook. Fl. II., 9.

A. patulus, Lam. Torr. & Gray Fl. II., 148.

Native of Lower Canada, (*Dr. Gray.*) Frequent along the Gaspé coast, but hitherto referred to *A. longifolius*. Rather common on Anticosti, especially at the mouth of Jupiter River. (*Macoun.*) Possibly mistaken in Nova Scotia and New Brunswick for *A. longifolius*.

(1048.) **A. longifolius**, Lam.

A. salicifolius, Rich. in part.

This species is another of those that need careful examination and comparison with authentic specimens. It is reported from Nova Scotia and New Brunswick, but these notices are more likely referable to the foregoing species. Mouth of Jupiter and other rivers, Anticosti, and in a few localities along the Gaspé coast. (*Macoun*.) Very likely it is the *A. salicifolius* of Richardson from Hudson Bay.

(1049.) **A. puniceus**, Linn.

This species in the typical form in low meadows and along streams, in great profusion and luxuriance, extends from the Atlantic Coast to the Rocky Mountains.

Var. **firmus**, Torr. & Gray Fl. II., 141.

A. vimineus, Lindl. Hook. Fl. II., 10.

A. puniceus, var. *vimineus*. Macoun's Cat., No. 855.

Low wet shady woods eastward, but common in river bottoms in the prairie region. Halifax, N.S. (*Sommers*.) Lake Huron. (*Dr. Todd*.) At Green Lake, Lat. 56°; Red Deer, South Saskatchewan and Bow River valleys, N.W.T. (*Macoun*.)

(1050.) **A. Novæ-Angliæ**, Linn.

Rocky banks, thickets, fence corners, old fields and by roadsides. St. Helen's Island, Montreal. (*McGill Coll. Herb.*) Common in Ontario westward to the Georgian Bay.

(1051.) **A. amplus**, Lindl. Hook. Fl. II., 10.

Rocky Mountains. (*Drummond*.) We know nothing of this species.

(1052.) **A. mutatus**, Torr. & Gray Fl. II., 142.

A. Unalaschkensis, β . (?) *major*, Hook. Fl. II., 7.

Saskatchewan to the Rocky Mountains. (*Drummond*.)

(1053.) **A. peregrinus**, Pursh.

North-west coast; and Ounalashka. (*Pursh*.) Norfolk Sound. (*Rothr. Alask.*)

(1054.) **A. foliaceus**, Lindl.

Ounalashka. (*Fischer*.) Specimens which we refer here were collected last August at Victoria, Vancouver Island. (*Fletcher*.) Little Shuswap Lake, B.C. (*Dawson*.)

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(1055.) **A. Sayli**, Gray.*A. modestus*, Lindl. Hook. Fl. II., 8. Macoun's Cat., No. 851.

Woods at the mouth of Smoky River, Lat. 56°. (*Drummond.*) Along the North Saskatchewan between Fort Pitt and Edmonton. (*Macoun.*)

(1056.) **A. — ?**

This is No. 518 of Suksdorf. Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(1057.) **A. elegans**, Torr. & Gray (?).

Most likely a form of the next. Ladner's Landing, B.C., and near Victoria. (*Fletcher.*)

(1058.) **A. Engelmanni**, Gray.

Cascade mountains, Lat. 49° (*Lyall.*) On the upper slopes of the South Kootanie Pass, Lat. 49°. (*Dawson.*)

(1059.) **A. alpinus**, Linn.

On the more elevated of the Rocky Mountains, Lat. 54° (*Drummond.*) Bow River Pass. (*Macoun.*) Rocky Mountains. (*Bourgeau.*) Ounashaska, 2,000 feet above the sea. (*Rothr. Alask.*) Between the Coppermine River and Cape Turnagain, Arctic Coast. (*Dease.*)

(1060.) **A. pygmæus**, Lindl.

Arctic Sea-coast. (*Richardson.*)

(1061.) **A. acuminatus**, Michx.

In deep, rich, cool or rocky, woods, common eastward. Anticosti. (*Verrill.*) Windsor, N.S. (*How.*) Halifax, N.S. (*Sommers.*) In cool rich woods, common, N.B. (*Fowler's Cat.*) Common throughout Quebec, and westward in eastern Ontario. (*Macoun.*) Vicinity of Ottawa, local, but abundant where it occurs. (*Fletcher Fl. Ott.*) Woods and thickets west of the Junction, Prescott, Ont. (*Billings.*)

(1062.) **A. nemoralis**, Ait.*A. uniflorus*, Michx. Fl. II., 110.*A. ledifolius*, Pursh. Fl. II., 544.*Galebolla nemoralis*, Nees. Hook. Fl. II., 15.

In sphagnous bogs and about mountain lakes. Newfoundland, at Harbor Grace. (*McGill Coll. Herb.*) North Sydney, Cape Breton. (*Macoun.*) Halifax, N.S. (*Sommers.*) Near St. John, N.B. (*Fowler's Cat.*) St. Stephen, N.B. (*Vroom.*) Common at Rivière du Loup, Q.

(Thomas.) In profusion on gneiss rocks on the shores of Trembling Lake, Q. (*D'Urban.*) Lake Mistassini, Q. (*J. Richardson.*) Thickets on a sandy beach, Lake Joseph and other localities, Muskoka, Ont. (*Burgess.*)

(1063.) **A. ptarmicoides**, Torr. & Gray.

Diplopappus albus, Hook. Fl. II., 21.
Helictotrichum album, DC. Prodr. V., 264.

Dry soil or rocky banks, scarce eastward. Dry fields near Belleville; also, west bank of the Trent above Trenton, Ont. Shore of Red Bay, Lake Huron. North-east shore of Lake Superior, both above and below Michipicotin, and on exposed points, Lake Nipigon. Along the Assiniboine, near Brandon and on the Red Deer River, at the head of Lake Winnipegosis. (*Macoun.*) Wood End, Souris River, Lat. 49°. (*Burgess.*) Hurricane Hills, N.W.T. (*J. M. Macoun C. P. R. Coll.*) On the banks of the Saskatchewan, but rare. (*Richardson.*) Along the Red River, Man. (*Douglas.*) Stoney Mountain, Man. (*Fletcher.*)

(1064.) **A. lutescens**, Torr. & Gray.

Diplopappus albus, var. *lutescens*, Hook. Fl. II., 21.
D. lutescens, DC. Prodr. V., 278.

On dry elevated ground of the Assiniboine River, Man. (*Douglas.*) West of the Touchwood Hills, 1872, not detected since. (*Macoun.*) This form differs from the preceding in its simple corymb, rough hairy stem, leaves lanceolate and scabrous hairy.

(1065.) **A. angustus**, Torr. & Gray.

Triplolium angustum, Hook. Fl. II., 15.

Saskatchewan and towards the Rocky Mountains. (*Drummond.*) Slave Lake. (*Richardson.*) Salt marsh borders at Old Wives Lakes, and westward to the Rocky Mountains, and northward to Lake Athabasca. (*Macoun.*)

(1066.) **A. pauciflorus**, Nutt.

Triplolium subulatum, Nees. Hook. Fl. II., 15.

Margin of saline lakes and in salt marshes. Marshes of the Saskatchewan. (*Drummond.*) Very abundant in salt marshes along Lake Winnipegosis, and up the Red Deer River, Lat. 53°; also, in all salt marshes in the prairie region, and north of the North Saskatchewan, above Fort Pitt. (*Macoun.*) Wood Mountain, Lat. 49°. (*Dawson.*)

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(1067.) **A. linifolius**, Linn.

A specimen of an aster gathered in a marsh with numerous brackish marsh species is placed under this name until better specimens are procured. Shore of Lake Huron, Bruce peninsula, Ont. 1871. (Macoun.)

(1068.) **A. linariifolius**, Linn.

Diplopappus linariifolius, Hook. Fl. II., 21. Macoun's Cat., No. 896.

Aster rigidus, Linn. Pursh. Fl. II., 544.

Newfoundland. (Cormack.) Nepisiquit River, N.B. Rather rare. (Fowler's Cat.) Three Rivers, Q. (MacLagan.)

(1069.) **A. umbellatus**, Mill.

Diplopappus umbellatus, Hook. Fl. II., 22. Macoun's Cat., No. 895.

D. amygdalinus, Hook. Fl. II., 23.

Common in damp thickets or wet meadows along streams, from Newfoundland, Anticosti, Nova Scotia and New Brunswick westward to the Saskatchewan.

Var. **pubens**, Gray.

This form is common in the valleys of the Magpie and Kaministiquia rivers, Lake Superior and westward to the Saskatchewan. (Macoun.)

Note.

Collectors are earnestly requested to obtain all forms of *asters* at the proper season and, in all cases, to take the root-leaves, so that in the course of a few years we may be enabled to revise what we have just written, and be able to place before students a complete monograph of Canadian *asters*. We are well aware of the imperfections of the above enumerations, but with the material at hand it is the best we can do. Dr. Gray is now revising the genus and a large part of the changes made in the synonymy are due to his advice and writings. The willow-leaved *asters* are in great confusion and it is more than probable that they will all be reduced to a few polymorphous species including many of our present species as varieties.

276. ERICERON, Linn.

(1070.) **E. hyssopifolius**, Michx. Fl. II., 123.

Aster graminifolius, Pursh. Torr. & Gray Fl. II., 156. Macoun's Cat., No. 842.

Galatella graminifolia, Hook. Fl. II., 15.

Damp, rocky, river banks and moist crevices of cliffs. Mouth of

the Aroostook, Tattagouche Falls. Rare, N. B. (*Fowler's Cat.*) Aroostook Falls, N.B. (*Wetmore.*) Very common in all the river valleys of Anticosti, and frequent in the river valleys of the Gaspé peninsula; abundant at Otter Head and Current River, Lake Superior. (*Macoun.*) Hudson Bay near York factory, and at the mouth of the Churchill River. (*R. Bell.*)

(1071.) **E. filifolius**, Nutt. Torr. & Gray Fl. II., 177.

Diplopappus filifolius, Hook. Fl. II., 21.

Chrysopsis canescens, DC. Prodr. V., 328.

On the slope of Jackass Mountain and at Spence's Bridge, B.C. (*Macoun.*) Nicola Valley, B.C. (*Dawson.*) Common at many points on the Thompson River, between Lytton and Spence's Bridge, B.C. (*Fletcher & Hill.*)

(1072.) **E. radicans**, Hook. Fl. II., 17.

On the top of dry gravel ridges west of Moose Mountain Creek; also, on gravel ridges at the eastern end of the Cypress Hills, N.W.T., and on ridges within the hills, (*Macoun.*) Rocky Mountain near Jasper's Lake, Lat. 54°. (*Drummond.*)

(1073.) **E. peucephyllus**, Gray.

Chrysopsis hirtella, DC. Prodr. V., 327 (?)

Cypress Hills, N.W.T., 1880. Spence's Bridge, B.C., 1875. (*Macoun.*) The rays of this species are different from other *Erigerons* by being almost yellow when fresh and quite so when dry.

(1074.) **E. compositus**, Pursh.

On dry or wet rocky slopes or ridges generally alpine. Moose Mountain Creek, on sand hills, N.W.T. (*J. M. Macoun C. P. R. Coll.*) Red Deer Lakes, west of the South Saskatchewan; Bow River Pass. Rocky Mountains, and on ridges in the Cypress Hills. (*Macoun.*) Rocky Mountains in numerous places from the 49th parallel to the Bow River Pass. (*Dawson.*) On the highest of the Rocky Mountains in Lat. 54°. (*Drummond.*) Barren country between 64° and the Arctic Sea. (*Richardson.*) On the top of Stuart Lake Mountain, B.C. (*Macoun.*) Itasyonco River, B.C. (*Dawson.*) Greenland. (*Hook. Arct. Fl.*)

Var. **discoideus**, Gray.

Near Lytton on the Fraser and close to Cache Creek, B.C. (*Macoun.*) Black Cañon of the Thompson River, B.C. (*Hill.*) Lytton and Nicoamin on the Thompson, B.C. (*Fletcher.*)

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Var. **trifidus**, Gray.*E. trifidus*, Hook. Fl. II., 17.

Barren places among the Rocky Mountains, Lat. 54-56°. (*Drummond.*)

Var. **glabratus**, Macoun.

On the Rocky Mountains of the South Kootanie Pass, 49th parallel. Perfectly smooth. A specimen approaching this but slightly hairy was gathered at Iltasyonco Lake, B.C. (*Dawson.*)

(1075.) **E. corymbosus**, Nutt.

Collected by Lyall near the southern boundary of British Columbia. (*Gray.*)

(1076.) **E. cæspitosus**, Nutt. Torr. & Gray Fl. II., 179.*E. canescens*, Torr. & Gray Fl. II., 179.*Diplopappus grandiflorus*, Hook. Fl. II., 21.*Diplopappus canescens*, Hook. Fl. II., 21.

Plains of the Saskatchewan and prairies of the Rocky Mountains. (*Drummond.*) Frequent on dry gravelly knolls from Fort Ellice to the Rocky Mountains. (*Macoun.*) Souris River, 49th parallel. (*Dawson.*)

(1077.) **E. pumilus**, Nutt.*E. hirsutus*, Pursh Fl. II., 742.

On dry open plains, apparently rare. Souris Plain, five miles, south of Moose Mountain, on hills of pure sand, N.W.T. (*J. M. Macoun C. P. R. Coll.*) Wood End, Souris River, 49th parallel; also, between Fort McLeod and the Rocky Mountains on Old Man River. (*Dawson.*) On the dry plain near the Hand Hills. (*Macoun.*)

(1078.) **E. concinnus**, Torr. & Gray Fl. II., 174.*E. strigosus*, var. *hispidissimus*, Hook. Fl. II., 18, chiefly.

Kit-a-mum River, Kootanie Valley, and on dry gravelly banks, Nicola Valley, B.C. (*Dawson.*)

(1079.) **E. uniflorus**, Linn.*E. alpinus*, Pursh. Fl. II., 532.

Labrador. (*Kohlmeister.*) Top of the Rocky Mountains, South Kootanie Pass. (*Dawson.*) Alpine Rocky Mountains. (*Bourgeau.*) Summits of the Rocky Mountains, Lat. 54-56°. (*Drummond.*) Arctic shores and islands from Behring's Straits and Ounalashka to Greenland. (*Torr. & Gray.*) On both sides of Baffin's Bay and Davis' Straits.

(*Kane*.) Between the Coppermine River and Cape Turn-again. (*Dease*.) Sinclair's Falls, Back's Great Fish River. (*Dr. Rae*.)

(1080.) ***E. grandiflorus***, Hook. Fl. II., 18.

Summits of the Rocky Mountains, Lat. 54-56°. (*Drummond*.) Eastern summit of the North Kootanie Pass. (*Dawson*.)

(1081.) ***E. lanatus***, Hook.

Summits of the Rocky Mountains, Lat. 54-56°. (*Drummond*.)

(1082.) ***E. speciosus***, DC.

E. glabellus, var. *micronatus*, Hook. Fl. II., 19.

Fraser River Crossing of the C. P. R., B.C. (*Fletcher*.) On the Skagit River, B.C. (*Dawson*.)

(1083.) ***E. macranthus***, Nutt.

Along Belly River and westward to the Rocky Mountains; Kootanie Valley, near Wild Horse Creek; Chilcoten River, west of the Fraser, B.C. (*Dawson*.)

(1084.) ***E. glabellus***, Nutt.

Quite common on the prairie from Winnipeg to the Rocky Mountains. What we take as the typical form is mostly glabrous below with ciliate leaves which are almost smooth. (*Macoun*.) From the Saskatchewan to Lat. 64°, throughout the wooded country. (*Richardson*.) Souris Plain, south of Moose Mountain. (*J. M. Macoun C. P. R. Coll.*) Abundant across the whole prairie region to the Rocky Mountains, and assuming many varietal forms; a large form at Garrett's Rancho, Old Man River. (*Dawson*.) Wainwright Inlet to the Mackenzie River. (*Rothr. Alask.*)

Var. ***asperus***, Torr. & Gray Fl. II., 173.

E. asperum, DC. Prodr. V. 286.

E. pulchellus, A. Hook. Fl. II., 19.

Stem and leaves rough with a strigose-hirsute pubescence. Common on the prairie and in thickets, from Long. 100° to the Rocky Mountains, and northward to Peace River, Lat. 56°. (*Macoun*.) Woody country, from the Saskatchewan to Lat. 64°. (*Richardson*.) Fort Youcon, Alaska. (*Rothr. Alask.*)

Var. ***pubescens***, Hook. Torr. & Gray Fl. II., 174.

Souris Plain, one mile south of Moose Mountain, N.W.T. (*J. M. Macoun C. P. R. Coll.*) Occasionally met with on the prairie west of

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Fort Ellice. (*Macoun.*) Crow Nest Lake, North Fork of Old Man River, Rocky Mountains. (*Dawson.*) Prairies of the Rocky Mountains, Lat. 54-56°. (*Drummond.*)

Var. **mollis**, Gray.

Along Belly River in the Foot Hills of the Rocky Mountains; also, at Michell Creek, Rocky Mountains. (*Dawson.*) This form might be attached to the preceding species, but it has a hairy involucre, and its stem is leafy up to the flower or flowers and the leaves are sessile, broad at the base, and tapering to the point, ciliate on the margins and the midrib covered below with long hairs.

(1085.) **E. salsuginosus**, Gray.

Aster salsuginosus, Rich. Hook. Fl. II., 6. Macoun's Cat., No. 841.

1. *Unalaschensis*, Nees. Hook. Fl. II., 7.

Salt plains of the Athabasca (?) (*Richardson.*) Rocky Mountains. (*Drummond.*) Alpine Rocky Mountains. (*Bourgeau.*) Rocky Mountains, 6,000 feet altitude on the 49th parallel; Michell Creek, Crow Nest Pass; western summit of the North Kootanie Pass; summit of the North Kootanie Pass; summit of the South Kootanie Pass; Skagit River, Il-ga-chug Mountains, Tsi-tse Lake, Upper Blackwater River, B.C. (*Dawson.*)

Var. **Unalaschensis**, Less.

Queen Charlotte Islands, 1878. (*Dawson.*) Two forms were gathered. One with narrow leaves and a very leafy hairy stem, the hairs not at all appressed; the other with a less hairy stem fewer and larger leaves, which are slightly denticulate and more pointed. In both, the involucral bracts are quite hairy, and in the latter very much attenuated and variously curved at the tips. These forms are doubtless distinct, but we need more specimens to determine.

(1086.) **E. bellidifolius**, Muhl.

E. pulchellus, Michx. Fl. II., 124.

Dry, sandy fields and pine woods. Halifax, N.S. (*Sommers.*) Pictou, N.S. (*McKay.*) Common at Rivière-du-Loup, Q. (*Thomas.*) (Very doubtful.) Dry, sandy woods common at Belleville and westward in the Lake Ontario counties. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Niagara Falls and westward. (*MacLagan.*) Not uncommon at London, Ont. (*Burgess.*)

(1087.) **E. Philadelphicus**, L. Torr. & Gray Fl. II., 171.

E. purpureus, Hook. Fl. II., 19.

Low grassy places along streams and in the valleys of all the large

rivers, from the Atlantic to the Pacific and northward to the Arctic circle.

(1088.) **E. Bellidiastrum**, Nutt. (?)

Stream banks and meadows. Kit-a-mum River, Kootanie Valley, Rocky Mountains, B.C. (*Dawson.*)

(1089.) **E. annuus**, Pers. Torr. & Gray Fl. II., 175.

E. heterophyllum, Muhl. Pursh. Fl. II., 534.

Fields and waste places apparently common at least in Ontario, Windsor, N.S. (*How.*) Truro, Pietou and Gut of Canso, N.S. (*Macoun.*) Rather common about Hampton and Petitcodiac, N.B. (*Brittain.*) Common at Rivière-du-Loup. (*Thomas.*) Common in western Quebec. (*McGill Coll. Herb.*) Very common throughout Ontario.

(1090.) **E. strigosus**, Muhl. Torr. & Gray Fl. II., 176.

E. nervosum, Pursh. Fl. II., 534.

Dry fields and open woods quite common, from Nova Scotia to the western part of Lake Superior, in the valley of the Kaministiquia River. (*Macoun.*) Lake of the Woods and Turtle Mountain, 49th parallel. (*Dawson.*) Souris Plain, south of Moose Mountain, N.W.T. (*J. M. Macoun C. P. R. Coll.*)

(1091.) **E. alpinus**, Linn.

Rocky Mountains at elevated situations, Lat. 54-56°. (*Drummond.*) South Kootanie Pass; eastern summit of North Kootanie Pass; western summit of North Kootanie Pass—a low branching form. (*Dawson.*) Wolf's Rapids, Back's Great Fish River. (*Dr. Rae.*) Greenland. (*Hook. Arct. Fl.*)

Var. *γ. elata*, Hook. Fl. II., 18.

Rocky Mountains in elevated situations, Lat. 54-56° (*Drummond.*) Bow River Pass. (*Macoun.*) Igacho Brook, B.C. (*Dawson.*) At Fort Confidence, Lat. 66°, 55°, Long. 118-48. (*Dease.*) Bartlett Bay, Alaska. (*Meehan.*)

(1092.) **E. acris**, Linn.

Labrador. (*Torr. & Gray.*) Grand Falls, St. John River, N.B. (*Hay.*) On shingle at the mouth of Jupiter River, Anticosti; along the Gaspé coast at and above Cape Rosier; north shore of Lake Superior; Hand Hills, N.W.T. (*Macoun.*) Hurricane Hills, south of Indian Head, N.W.T. (*J. M. Macoun C. P. R. Coll.*)

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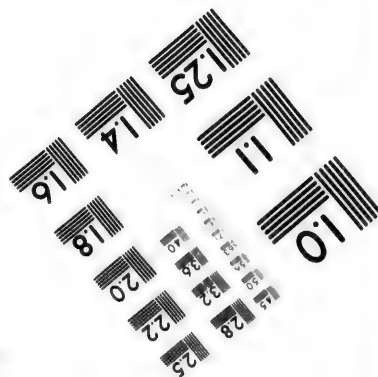
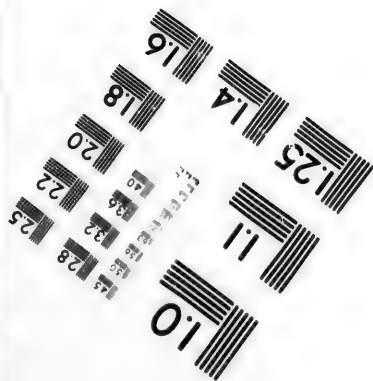
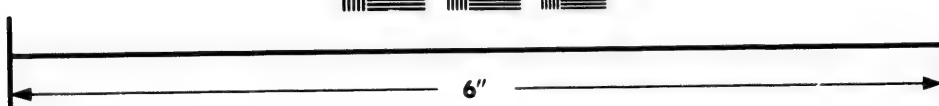
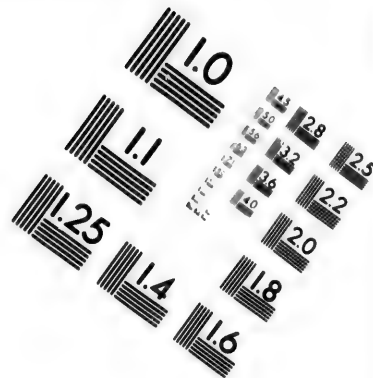
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Var. **Dröebachensis**, Blytt.*E. glabratus*, Hook. Fl. II., 18, partly.*E. Kumschaticus*, DC. Prodr. V., 290.

Anticosti and Labrador to the Rocky Mountains. (*Gray*.) Along the Gaspé coast above Mont Louis; Michipicotin Island, Lake Superior, and on hillsides along the Magpie River, north of the lake; abundant on islands in Lake Nipigon, and at Humboldt Bay on same lake. (*Macoun*.) Hudson Bay to the Rocky Mountains, and from the Saskatchewan to Fort Franklin on the Mackenzie River. (*Richardson*.) York Factory, Hudson Bay. (*R. Bell*.) Bartlett Bay, Alaska. (*Meehan*.)

(1093.) **E. armeriæfolius**, Turz.*E. lonchophyllus*, Hook. Fl. II., 18. Macoun's Cat., No. 890.*E. glabratus*, var. *minor*, Hook. Fl. II., 18, partly.

Rocky Mountains and Saskatchewan. (*Drummond*.) North of the Saskatchewan near Edmonton. (*Macoun*.)

(1094.) **E. Canadense**, Linn. Fire-weed.

Fields and waste places from the Atlantic to the Pacific. Spreading where not indigenous by means of the railways. This is the "Fire-weed" of the Ontario farmers, which is injurious to badly winter killed "fall wheat."

277. ANTENNARIA, Cærtn. EVERLASTING.(1095.) **A. dimorpha**, Torr. & Gray Fl. II., 431.

On very dry soil at Lytton, B.C. (*Macoun*.) Common at Spence's Bridge, on the Thompson River, B.C. (*Fletcher*.)

(1096.) **A. racemosa**, Hook. Fl. I., 330.

Rocky, mountain slopes. Alpine woods of the Rocky Mountains. (*Drummond*.) Bow River Pass. (*Macoun*.) Eastern and western summits of the North Kootanie Pass. (*Dawson*.) Summit of Stuart Lake Mountain, B.C. (*Macoun*.) Elgatcho Lake and Dean or Salmon River, near Salmon House, B.C. (*Dawson*.)

(1097.) **A. plantaginifolia**, Hook.*Gnaphalium plantagineum*, Willd. Pursh. Fl. II., 525.

Wet and sterile knolls and fields and open woods, from Anticosti, Nova Scotia, New Brunswick and westward to the Pacific. Eastward two forms of this species are found—one in old pastures which is prob-

ably introduced ; the other a taller form that is certainly indigenous. Slave Lake. (*Back.*)

(1098.) ***A. dioica*, Gærtn.**

From Newfoundland to Labrador and the extreme Arctic regions, and dry mountain pastures of the Rocky Mountains. (*Hooker.*) Islands adjacent to the Alaskan coast. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*) On the western prairie region and in British Columbia a form which, in some respects, approaches *A. alpina* is very common. It seems to be the *A. dioica* of Eaton in King's Report of the 40th parallel, but is not the *A. dioica* of the English botanists. It is probably the prairie form of *A. alpina*, which indeed a late communication from Dr. Gray would indicate. Our plant may be the var. *parvifolia*, Torr. & Gray, which is not referred to by late writers.

Var. ***rosea***, Eaton. Bot. King Exp., 186.

Rather rare east of the Rocky Mountains, but common in British Columbia. Near Short Creek, Souris River, 49th parallel. Michell Creek, Crow Nest Pass, Rocky Mountains ; Dean or Salmon River, B.C. (*Dawson.*) Frequent from Lytton to near Stuart Lake, B.C. (*Macoun.*)

(1099.) ***A. alpina*, Gærtn.**

Labrador. (*Kohlmeister.*) York Factory, Hudson Bay. (*Douglas.*) Throughout the barren regions to the elevated Rocky Mountains. (*Drummond.*) North of the Cypress Hills, N.W.T., and on the Rocky Mountains, 49th parallel. (*Dawson.*) Bow River Pass, Rocky Mountains ; Cache Creek and Stuart Lake mountains, B.C. (*Macoun.*) Kotzebue Sound, island of St. Lawrence, and Ounalashka. (*Rothr. Alask.*) On both sides of Baffin's Bay and Davis Straits. Mellville islands. (*Capt. Markham.*) Greenland. (*Hook. Arct. Pl.*) Bartlett Bay, Alaska. (*Meehan.*) Lake Lindeman, source of the Youcan River, Lat. 60°. (*Schwatka.*)

(1100.) ***A. Carpathica*, R. Br.**

Wet, boggy places and river margins. Labrador. (*Gray.*) River de Brig and Gunn River, Anticosti. (*Macoun.*) York Factory, Hudson Bay. (*R. Bell.*) Summits of the most elevated Rocky Mountains, about Lat. 54°. (*Drummond.*) Crow Nest Pass, east of the lake ; western summit of North Kootanie Pass ; summit of the Cascade Mountains, B.C. (*Dawson.*) Cache Creek Mountain, B.C. (*Macoun.*)

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Var. **pulcherrima**, Hook.

Swamps of the plains, and among the Rocky Mountains. (*Drummond*.) In numerous swamps in the prairie region, west of the Touchwood Hills, and quite common west of the Meridian of Battleford. (*Macoun*.) North of the Cypress Hills and in the Foot Hills of the Rocky Mountains, 49th parallel. (*Dawson*.) Vicinity of Calgary, N.W.T. (*J. M. Macoun C. P. R. Coll.*)

(1101.) **A. luzuloides**, Torr. & Gray Fl. II., 430.

Oregon or Rocky Mountains. (*Drummond* or *Douglas*.) Borders of British Columbia. (*Gray*.) Mountain above Spence's Bridge, B.C. (*Macoun*.) The specimens obtained were quite young, heads very small and the pappus short and spatulate. Better specimens are needed.

278. ANAPHALIS, DC. (PEARLY EVERLASTING.)

(1102.) **A. margaritacea**, Benth & Hook.

Antennaria margaritacea, Hook. Fl. II., 329. Macoun's Cat., No. 1030.

Gnaphalium margaritaceum, Willd. Pursh. Fl. II., 524.

Common on dry soil along the margins of fields and borders of woods from Newfoundland, Anticosti, Nova Scotia, New Brunswick and westward to the Pacific. Sitka and Oumalashka. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan*.)

279. GNAPHALIUM, Linn. (CUDWEED.)

(1103.) **G. decurrens**, Ives. Everlasting.

G. luteo-album (?) Holmes. Herb. McGill College.

Old fields and borders of woods. Windsor, N. S. (*How.*) Greenhead, St. John Co.; and abundant along Grand Lake and Salmon River, N.B. (*Fowler's Cat.*) Common in Quebec and Ontario and westward to Michipicotin Island, Lake Superior, also the country north of that lake and west side of Lake Nipigon. (*Macoun*.) British Columbia. (*Gray*.)

(1104.) **G. Sprengelli**, Hook. & Arn.

G. luteo-album, Hook. Fl. I., 328. Macoun's Cat., No. 1021.

G. decurrens, var. β . Hook. Fl. I., 328.

Along rivers on gravel and shingle. Straits of De Fuca. (*Scouler*.) Along the Fraser near Yale above the Falls of the Spuzzum, and around Victoria, B.C. (*Fletcher*.)

(1105.) ***G. sylvaticum***, Linn. Hook. Fl. I., 328.

Abundant at Campbellton, Restigouche; also found in woods at River Charles, N.B. Apparently native. (*Fowler's Cat.*) Quite common along the clay banks above high water about one mile below Campbellton, N.B. Certainly indigenous. On the margin of the sea, North Sidney, Cape Breton. (*Macoun.*)

(1106.) ***G. Norvegicum***, Gunner.

Labrador. (*Torr. & Gray.*) Canada. (*Pursh.*) On the top of Mount Albert, in a little gully facing north, the snow in which lies nearly all summer, Shickshock Mountains, Gaspé. (*Macoun.*) Russian America. (*Gmelin.*) On both sides of Baffin's Bay and Davis Straits, Upernavick, Lat. 73°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

(1107.) ***G. palustre***, Nutt.

Common on dry soil (where water seemed to lie in the spring) east of the Hand Hills, N.W.T. (*Macoun.*) Near Victoria, Vancouver Island. (*Dawson.*) Very common at Victoria, and up the Fraser and Thompson rivers. (*Fletcher.*)

(1108.) ***G. uliginosum***, Linn.

Common along roadsides and in damp places in pastures from Newfoundland, Anticosti, Nova Scotia, New Brunswick, and westward to Owen Sound; also, along the Saskatchewan and its branches. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

(1109.) ***G. polycephalum***, Michx.

Old fields and open places in woods, not rare, often confounded with *G. decurrens* which frequently grows with it. Northport, N.S. (*McGill Coll. Herb.*) In old fields at Annapolis and Kingston on the Annapolis and Windsor Railway, N.S. (*Macoun.*) Specimens in Fredericton University marked abundant, but without locality. (*Fowler's Cat.*) Common in old fields throughout Quebec and Ontario, to the Lake of the Woods. (*Dawson.*)

(1110.) ***G. supinum***, Vill. Hook. Fl. I., 329.

Labrador. (*Morrison.*) Greenland. (*Hook. Arct. Pl.*)

(1111.) ***G. purpureum***, Linn.

G. Americanum, Pursh Fl. II., 525.

G. Chamissonis, DC. Prodr. VI., 233.

Common in grassy places along the coast at Victoria, Vancouver Island. (*Fletcher.*)

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280. INULA, Linn. (ELECAMPANE.)

(1112.) **I. Helenium**, Linn. Common Elecampane.

Introduced. Frequent in old pastures along streams or by roadsides, or in the grassy borders of woods. Common in Nova Scotia. Rare in New Brunswick, but frequent in Quebec, and common in Ontario.

281. ADENOCAULON, Hook. (ADENOCAULON.)

(1113.) **A. bicolor**, Hook.

Near the outlet of Lake Superior [possibly on the north side.] (*Dr. Pitcher*.) Woods on the Portage River, one of the sources of the Columbia, in the Rocky Mountains, Lat. 52°. (*Drummond*.) Small prairie in cedar bush on Wigwam River, Rocky Mountains; on the Cascade Mountains, east of Hope, B.C. (*Dawson*.) Vicinity of Victoria, Vancouver Island. (*Fletcher*.)

282. POLYMNIA, Linn. (LEAF-CUP.)

(1114.) **P. Canadensis**, Linn.

Hillsides in shady, rich soil along streams. On the mountain side near Hamilton. (*Logie*.) Loose rocks along the road leading down to the river below the Clifton House, and abundant amongst rocks, Foster's Flats below the Whirlpool, Niagara Falls. (*Macoun*.) At the Whirlpool below Niagara Falls. (*MacLagan*.) Vicinity of London, Ont. (*Burgess*.)

283. SILPHIUM, Linn. (ROSIN-PLANT.)

(1115.) **S. terebinthinaceum**, Linn. Prairie-Dock.

Open woods and grassy banks. Cayuga and Malden, Ont. (*MacLagan*.) Along the Great Western Railway, east of Paris, Ont. (*Geo. Prescott*.)

(1116.) **S. perfoliatum**, Linn. Cup-Plant.

Rich soil along streams. Island in Detroit River. (*MacLagan*.)

284. IVA, Linn. (MARSH ELDER.)

(1117.) **I. axillaris**, Pursh. Hook. Fl. I., 309.

On dry or wet saline soil. Along the Saskatchewan from Carlton to Edmonton. (*Drummond.*) Very common on the margin of saline lakes and ponds throughout the prairie region. (*Macoun.*) Short Creek, Souris River, 49th parallel, and abundant westward on hard baked clay. (*Darson.*)

(1118.) **I. xanthifolia**, Nutt.

Cyclachna xanthifolia, Fres. Torr. & Gray, Fl. II., 286.

In alluvial soil along rivers and small streams. Reed Lake, west of Old Wives' Lakes; at Setter's Farm, Cypress Hills; and on the slope of the high bank between Fort Edmonton and the river. (*Macoun.*) Swift Current Creek, C. P. R. Crossing; and at Fort Qu'Appelle close to the Hudson Bay Co.'s store. (*J. M. Macoun C. P. R. Coll.*)

285. Ambrosia, Tourn. (RAG-WEED.)

(1119.) **A. trifida**, Linn.

Low grounds along streams. Common in the vicinity of Montreal. (*Holmes & Ami.*) In a boggy field near St. Louis Dam, Ottawa. (*Macoun & Fletcher.*) Cayuga and Malden, Ont. (*MacLagan.*) Along the northern slope of the Cypress Hills. (*Macoun.*) Vicinity of Winnipeg. (*Bourgeau.*)

Var. **integrifolia**, Torr. & Gray Fl. II., 290.

A. integrifolia, Muhl. Pursh. Fl. II., 580.

On alluvial soil in river valleys. On alluvium along Maple Creek, Cypress Hills. (*Macoun.*) Near Milk River, on low fertile prairie land, 49th parallel. (*Dawson.*)

(1120.) **A. artemisiæfolia**, Linn.

A. elatior, Linn. Hook. Fl. I., 309.

A. paniculata, Michx. Hook. Fl. I., 309, in part.

Very common as a weed along railroads, and in towns and villages, throughout Canada to the Rocky Mountains.

(1121.) **A. psilostachya**, DC.

A. coronopifolia, Torr. & Gray Fl. II., 291.

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first and second Prairie Steppes. (*Dawson.*) West of the Elbow of the South Saskatchewan. (*Macoun.*) Swift Current at the C. P. R. crossing. (*J. M. Macoun, C. P. R. Coll.*)

286. *FRANSERIA*, Cav.

(1122.) **F. Hookeriana**, Nutt.

Ambrosia acanthicarpu, Hook. Fl. I., 309.

Banks of the Saskatchewan and Red River. (*Douglas.*) Abundant at Crooked Lake and "Big Stick" Lake, north of Cypress Hills. (*Macoun.*)

(1123.) **F. bipinnatifida**, Nutt.

Ambrosia paniculata, Hook. Fl. I., 309, in part.

Sea shore, Nootka Sound. (*Scouler.*) Queen Charlotte Islands. (*Dawson.*) Vancouver Island. (*Cowley.*)

(1124.) **F. Chamissonis**, Less.

Seashore along the southern part of British Columbia. (*Gray.*)

287. *XANTHIUM*, Tourn. (COCKLEBUR.)

(1125.) **X. Canadense**, Mill.

X. strumarium, Linn, var. *Canadense*, Torr. & Gray Fl. II., 294.

Common in river bottoms, in many places throughout the north-west. (*Macoun.*) Moose Mountain Lake, N.W.T. (*J. M. Macoun, C. P. R. Coll.*) Lake of the Woods and along the Red River. (*Dawson.*)

Var. **echinatum**, Gray.

X. echinatum, Murray. Torr. & Gray Fl. II., 294.

Waste places and on alluvium in river bottoms, Pictou, N.S. (*McKay.*) Nicolet, Q. (*MacLagan.*) Bridge over the river St. Pierre, Q. (*Holmès.*) Montreal Mountain. (*McGill Coll. Herb.*) Alluvial flats of the Ottawa and at Billings' Bridge. (*Fletcher Fl. Ott.*) Vicinity of Prescott, Ont. (*Billings.*) Valley of the Salmon River at the railway bridge, Shannonville, Ont.; also in St. James' Cemetery, Toronto. (*Macoun.*) Roadsides, common near Hamilton, Ont. (*Logie.*) Chippewa and Malden, Ont. (*MacLagan.*) Vicinity of London, Ont. (*Burgess.*) Abundant at Sarnia and many points along the Great Western Railway, Ont. (*Macoun.*)

(1126.) **X. spinosum**, Linn.

Introduced in wool. Abundant at Dundas, Ont. (*Burgess.*) Strathroy, Ont. (*McGill Coll. Herb.*)

288. HELIOPSIS, Pers. (OX-EYE.)(1127.) **H. lævis**, Pers.

Euphthalmum helianthoides, Linn. Michx. Fl. II., 130.

Dry open thickets and prairies. St. Catharines and Malden, Ont. (*Maclean.*) Thickets, vicinity of London, Ont. (*Burgess.*)

(1128.) **H. scabra**, Dunal. Hook. Fl. I., 310.

H. lævis, var. *scabra*, Torr. & Gray Fl. II., 303.

On the prairie between Oak Point and Winnipeg. (*Macoun.*) Common on the banks of Red River near the "Forks" (of the Red and Assiniboine at Winnipeg). (*Douglas.*) Turtle Mountain and Red River prairie on the 49th parallel. (*Dawson.*)

289. RUDBECKIA, Linn. (CONE-FLOWER.)(1129.) **R. hirta**, Linn.

R. fulgida, Ait. Dawson's Boundary Report.

In old fields and meadows eastward apparently introduced; very abundant on some parts of the prairie region. This species is always found in meadows in eastern Canada, but in Ontario it is found in both fields and thickets, and more especially along the Grand Trunk and Great Western railways, west of Toronto. It is often common on damp places on the prairie as far west as Humboldt on the old telegraph line.

(1130.) **R. laciniata**, Linn Fl. I., 311.

In swamps and low damp thickets. Cross-road Côté des Neiges, also River St. Pierre, near Montreal. (*Holmes.*) Beauharnois, Q. (*McGill Coll. Herb.*) Wet ground near Blue Church, and in thickets west of Brockville, rare. (*Billings.*) Along the Nation River at Casselman's on the Canada Atlantic Railway, 30 miles from Ottawa. (*Fletcher.*) In a small cedar swamp, near Heely Falls, on the Trent, Northumberland Co., Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*) Roseau River and Turtle Mountain on the 49th parallel. (*Dawson.*) Abundant along the Assiniboine River between Winnipeg and Portage la Prairie. (*Macoun.*)

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- (1131.) **R. columnaris**, Pursh. Fl. II., 575. Hook. Fl. I., 311.

Lepachys columnaris, Torr. & Gray Fl. II., 315. Macoun's Cat. No. 974 and 975.

Very abundant on arid soil especially west of the 102nd meridian, N.W.T. (*Macoun.*) On dry undulating grounds of the Saskatchewan and Red rivers. (*Douglas.*) Frequent along the 49th parallel, and westward to the Foot Hills. (*Dawson.*)

Var. **pulcherrima**, Don.

Lepachys columnaris, var. *pulcherrima*, Torr. & Gray Fl. II., 315.

Along the shores of Long Lake, west of Last Mountain, N.W.T. (*Macoun.*)

290. ECHINACEA, Mœnch. (PURPLE CONE-FLOWER.)

- (1132.) **E. angustifolia**, DC.

E. purpurea, Dawson's Boundary Report.

Wood End, on the Souris River, 49th parallel. (*Dawson.*)

291. BALSAMORHIZA, Hook.

- (1133.) **B. sagittata**, Nutt.

Buphthalmum sagittatum, Pursh. Fl. II., 564.

Dry, rocky or gravelly soil. Crow Nest Pass, east of the lake, Rocky Mountains, abundant on dry slopes of the hills. (*Dawson.*) Very common on dry grassy slopes on both sides of the Thompson at Spence's Bridge, B.C. (*Macoun & Hill.*)

- (1134.) **B. deltoidea**, Nutt.

On Cedar Hill, near Victoria, Vancouver Island. (*Macoun.*) Drew's Harbor, Valdez Island, B.C. (*Dawson.*)

292. HELIANTHUS, Linn. (SUN-FLOWER.)

- (1135.) **H. annuus**, Linn. Garden Sun-flower.

H. lenticularis, Dougl. Hook. Fl. I., 313.

H. multiflorus, Hook. Fl. I., 313, in part.

Frequent on waste heaps and in old gardens and around fences in many parts of the Dominion. (The cultivated form.) The following

refer to the indigenous form. On arid soil. Saskatchewan. (*Drummond.*) Bank of Moose Jaw Creek, on arid clay. (*Macoun.*) White Mud River or Frenchman's Creek, 49th parallel. (*Dawson.*) Abundant in the dry interior of British Columbia, along the Thompson River. (*Fletcher & Hill.*)

(1136.) **H. petiolaris**, Nutt.

On arid soil along streams in the south-western part of the prairie region, from the Elbow of the South Saskatchewan westward. (*Macoun.*) Along Belly River. Sandy bank, Wood End on Souris River, 49th parallel. (*Dawson.*)

(1137.) **H. rigidus**, Desf. Var. β . Torr. & Gray.

H. atrorubens, Hook. Fl. I., 312.

Plains and grassy prairies. Banks of the Saskatchewan as far as Edmonton. (*Drummond.*) From the Red River to the Rocky Mountains, on the 49th parallel. (*Dawson.*) Very common throughout the whole prairie region. (*Macoun.*)

(1138.) **H. Nuttallii**, Torr. & Gray Fl. II., 324.

On dry open prairie, often confounded with small forms of the next. South of Battleford and near the Hand Hills. Also, west of Humboldt Telegraph Station. (*Macoun.*) Bow River valley at Calgary. (*J. M. Macoun, C. P. R. Coll.*) Turtle Mountain, 49th Parallel. (*Dawson.*) Interior of British Columbia, (*Gray.*)

(1139.) **H. giganteus**, Linn.

Grassy thickets and borders of marshes. Vicinity of Hamilton, Ont. (*Logie.*) Cayuga and Malden, Ont. (*Macdagan.*) Common at London, Ont. (*Burgess.*) Coldstream, Port Colborne, Ont. (*McGill. Coll. Herb.*) Marshy meadow at Point Edward near Sarnia, also in numerous places along the Great Western Railway, between Sarnia and Hamilton. Very abundant on the prairie region from the Lake of the Woods to the Rocky Mountains, and northward to the forest line. (*Macoun.*)

(1140.) **H. strumosus**, Linn.

Dry, gravelly soil quite common in Hastings and Northumberland counties, Ont. (*Macoun.*) Fields around Hamilton, Ont. (*Logie.*) Strathroy, Ont. (*McGill. Coll. Herb.*) Vicinity of London, Ont. (*Burgess.*) A variety of this species was collected somewhere in the North-West by Bourgeau. See Palliser's Report, page 258. Possibly

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the same form was collected on the 49th parallel at Turtle Mountain by Dr. G. M. Dawson.

(1141.) **H. decapetalus**, Linn.

H. frondosus, Hook. Fl. I., 312.

H. trachelifolius, Holmes Herb. McGill College.

On the borders of woods and thickets. Abundant on Montreal Mountain; Cowansville, Q. Beauharnois Co., Q. Knowlton, Q. (*McGill Coll. Herb.*) Nicolet, Q. (*MacLagan.*) In the vicinity of Prescott quite common. (*Billings.*) Valley of the Trent above Trenton; at Consecun, Prince Edward Co., and abundant in St. James' Cemetery, Toronto. (*Macoun.*) Niagara District. (*MacLagan.*) Common around London, Ont. (*Burgess.*) Mouth of Mississauga River, Georgian Bay. (*R. Bell.*)

(1142.) **H. divaricatus**, Linn.

On dry, gravelly soil along rivers and in thickets. Chelsea near Ottawa, and common at Prescott, Ont. (*Billings.*) Vicinity of Ottawa. (*McGill Coll. Herb.*) Dry woods and thickets in Hastings Co. and westward throughout Ontario. (*Macoun.*) Norway House, outlet of Lake Winnipeg. (*Richardson.*)

(1143.) **H. parviflorus**, Bernh.

H. microcephalus, Torr. & Gray Fl. II., 329.

H. divaricatus, Michx. Fl. II., 141.

Thickets in alluvial soil in western Ontario. (*Goldie vide Torr. & Gray Fl. II., 330.*)

(1144.) **H. Maximilliani**, Schrader.

On the Saskatchewan. (*Bourgeau.*) We are not acquainted with this species but very likely confound it with *H. giganteus*, which is very near it.

(1145.) **H. tuberosus**, Linn.

Naturalized in a few places near gardens. An escape in Halifax Co., N.S. (*Lawson.*) Spontaneous about garden fences, N.B. (*Fowler's Cat.*) Naturalized in a few localities in central Ontario. (*Macoun.*) Vicinity of London. (*Burgess.*) Beaver Meadows, near Thorold, Ont. (*MacLagan.*)

(1146.) **H. pumilus**, Nutt.

Specimens which are doubtfully referred to this species were collected at the Blackfoot Crossing on Bow River. (*Macoun.*) Calgary in the valley of the Bow River. (*J. M. Macoun, C. P. R. Coll.*)

(1147.) **H. doronicoides**, Lam. Torr. & Gray Fl. II., 327, in part.

In the valley of the Kaministiquia, west of Lake Superior, a species of *Helianthus*, which produces large tubers, was observed in profusion near Point Meuron in July, 1869. Not having seen perfect specimens we are still uncertain what species it is but refer it here for the present. Malden, Ont. (*MacLagan.*)

293. ACTINOMERIS, Nutt. (ACTINOMERIS.)

(1148.) **A. squarrosa**, Nutt.

A. alternifolia, DC. Prodr. V., 575.

Verbascina Coreopsis, Michx. Fl. II., 134.

Islands in the Detroit River. (*MacLagan.*)

294. COREOPSIS, Linn. (TICKSEED.)

(1149.) **C. discoidea**, Torr. & Gray Fl. II., 339.

Vicinity of Pictou, N.S. [?] (*McKay.*) Malden, Ont. (*MacLagan.*)
Very likely both references belong to a form of *Bidens frondosa*.

(1150.) **C. trichosperma**, Michx.

Islands in Detroit River. (*MacLagan.*) Very likely the species meant is *C. aristosa*, Michx., which might be found as above.

(1151.) **C. tripterus**, Linn. Tall Coreopsis.

Dry soil near streams. Malden, Ont., and islands in Detroit River. (*MacLagan.*)

(1152.) **C. verticillata**, Linn.

Moist places and margins of swamps, western Canada. (*Gray.*)

(1153.) **C. lanceolata**, Linn.

North shore of Lake Superior. (*Dr. Pitcher.*) Lake Huron. (*Dr. Todd.*) In rich or damp soil, western Canada. (*Gray.*)

(1154.) **C. tinctoria**, Nutt.

Damp places in creeks and coulées, prairie region. South of Battleford and at the Hand Hills; also, in dry coulées east of the Cypress Hills. (*Macoun.*) South of Wood Mountain, and west fork of Milk River, not abundant, 49th parallel. (*Dawson.*)

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295. BIDENS, Linn. (BUR-MARIGOLD.)

- (1155.) **B. frondosa**, Linn. Common Beggar-ticks.

B. pilosa, Willd. Holmes Herb. McGill College.

Common in ditches and on moist, fertile soil, from Nova Scotia and New Brunswick to the Saskatchewan. (*Richardson.*)

- (1156.) **B. connata**, Muhl. Swamp Beggar-ticks.

Swampy grounds and margins of rivers and ponds, from Nova Scotia and New Brunswick throughout Quebec and Ontario to the Saskatchewan, at Cumberland House. (*Richardson.*)

- (1157.) **B. cernua**, Linn. Smaller Bur-marigold.

Swamps and ditches, from Nova Scotia and New Brunswick throughout Quebec and Ontario westward to the Saskatchewan and northward to Hudson Bay. (*Richardson.*) Very abundant in marshes on the upper part of Swan River and westward in the valleys of rivers to the Rocky Mountains. (*Macoun.*)

Var. **elata**, Torr. & Gray Fl. II., 352.

B. chrysanthemoides, Hook. Fl. I., 314.

Straits of De Fuca, on the North-West coast. (*Scouler.*)

- (1158.) **B. chrysanthemoides**, Michx. Greater Bur-marigold.

Swamps and margins of shallow pools and in ditches. This species is credited with the same range as the last in all the eastern part of Canada, but is not recorded west of the Lake of the Woods. My impression is that this is a more southern species than *B. cernua*, and that the variety with four awns on the achenia should be placed with *B. cernua*. All our western forms seem to be *B. cernua* and it is probable that our northern ones also are that species.

- (1159.) **B. Beckii**, Torr.

In still water in rivers and lakes. In the St. Lawrence near Point St. Charles, at Montreal. (*Holmes.*) Beauharnois Co., Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Railway Bay near Prescott, also Doxey's Bay, Rideau River, four miles from Ottawa, abundant. (*Billings.*) River Trent above Heely Falls; Bay of Quinte, above Flint's Mill, Belleville; also, Sydenham River above the falls, near Owen Sound, Ont. (*Macoun.*) Niagara River above the falls. (*David F. Day.*) Chippewa and Malden, Ont. (*MacLagan.*)

Lake of the Woods and Red River, Man. (*Dawson*.) Little Swan River and lakelets along the Porcupine mountains, Man. (*Macoun*.)

296. MADIA, Molina. (TAR-WEED.)

(1160.) **M. Nuttalli**, Gray.

Anisocarpus nudioides, Nutt. Torr. & Gray Fl. II., 403.

Woods from California to British Columbia. (*Gray*.)

(1161.) **M. glomerata**, Hook. Fl. II., 24.

Amida hirsuta, Nutt. Torr. & Gray Fl. II., 406. Macoun's Cat. No. 994.

Plains of the Saskatchewan. (*Drummond*.) Swift Current Creek on the line of the C. P. R. near the station, N.W.T. (*J. M. Macoun*, *C. P. R. Coll.*) Foot hills of the West Butte, 49th parallel. (*Dawson*.)

Var. **gracilis**, Macoun.

Amida gracilis, Nutt. Torr. & Gray Fl. II., 405.

In the beds of dried up streams and bottoms of coulées. Swift Current Creek on the line of the C. P. R. (*J. M. Macoun*, *C. P. R. Coll.*) Small lake near Pincher Creek, N.W.T. (*Dawson*.) Along the upper part of Pile of Bones Creek and at Red Deer lakes west of the Elbow of the South Saskatchewan. (*Macoun*.)

(1162.) **M. dissitiflora**, Torr. & Gray.

On gravel or damp soil around Victoria, Vancouver Island. (*Dawson* & *Fletcher*.)

(1163.) **M. filipes**, Gray.

On gravelly soil in the vicinity of Victoria, Vancouver Island. (*J. Richardson*, *Meehan* & *Fletcher*.)

297. JAUMEA, Pers.

(1164.) **J. carnosa**, Gray.

Coinogyne carnosa, Less. Torr. & Gray Fl. II., 410.

Shores of Puget Sound. (*Gray*.) Possibly at the southern point of Vancouver Island.

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298. ERIOPHYLLUM, Lag.

- (1165.) **E. caespitosum**, Dougl.

Bahia lanata, DC. Torr. & Gray Fl. II., 375.

Actinella lanata, Pursh. Fl. II., 560.

Trichophyllum lanatum, Nutt. Hook. Fl. I., 315.

On rocky slopes at Yale, B.C. (*Macoun*.) Vicinity of Victoria, Vancouver Island. (*Mechan*.)

- Var. **leucophyllum**, Gray.

Bahia leucophylla, DC. Torr. & Gray Fl. II., 375.

On dry gravelly hill sides near Victoria, Vancouver Island. (*Macoun* & *Fletcher*.)

299. CHAENACTIS, DC.

- (1166.) **C. Douglasii**, Hook. & Arn.

Hymenopappus Douglasii, Hook. Fl. I., 316.

On dry ground along sloping banks. On the banks of Belly River; at Wood Mountain on the shore of a saline lake, 49th parallel; also on the Chilcoten River west of the Fraser, B.C. (*Dawson*.) Nicola Valley, B.C. (*Fletcher*.)

300. HYMENOPAPPUS, L'Her. (HYMENOPAPPUS.)

- (1167.) **H. filifolius**, Hook. Fl. I., 317.

H. tenuifolius, Eaton in Bot. King Exp. 173.

On dry sandy or gravelly soil. White Mud River, or Frenchmen's Creek, dry bank, 49th parallel. (*Dawson*.) Missouri Coteau in the Dirt Hills. (*Macoun*.)

301. HELENIUM, Linn. (SNEEZE-WEED.)

- (1168.) **H. autumnale**, Linn. Sneeze-weed.

On alluvium in the valleys of the rivers and borders of lakes. At the Chats on the Ottawa. (*Mrs. Col. Chamberlain*.) Boucherville Islands, near Montreal. (*Holmes*.) Vicinity of Montreal and near Ottawa.

(*McGill Coll. Herb.*) Islands in Rice Lake and along the river Trent at Crow Bay; also, Lake Isaac and Red Bay, Lake Huron. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Niagara Falls and along the Detroit River. (*Maclean.*) Near London, along the Thames. (*Burgess.*) Not uncommon throughout the prairie region and extending westward to the Pacific. (*Macoun.*) From Lake Huron to the Arctic Circle and from Hudson Bay to the Pacific. (*Hooker.*)

302. GAILLARDIA, Fourgeroux.

(1169.) **G. aristata**, Pursh.

G. bicolor, Lam. Hook. Fl. I., 315.

Common on dry soils from the eastern part of Manitoba to the Rocky Mountains and in the dry interior of British Columbia. The variety β of Hooker has been collected in the Rocky Mountains by Dr. Dawson. The form from the Foot Hills of the Rocky Mountains has very large flowers often over two inches across, the rays are yellow and nearly all the leaves are entire. Another form has a very woolly involucre and nearly all the leaves deeply pinnatifid. The three forms are limited as follows:

(1) Flowers large, rays deep yellow and with a long limb, leaves nearly all entire.

(2) This form has also large flowers, but the rays have a tinge of purple at the base and the outer bracts are long and taper pointed.

(3) In this the rays are quite short and involucre and upper part of the peduncle quite woolly, nearly all the leaves are more or less pinnatifid. This form has a purplish disk and is always of small size.

303. ACTINELLA, Pers.

(1170.) **A. acaulis**, Nutt.

Gaillardia acaulis, Pursh. Fl. II., 743.

Dry gravelly soil, prairie region. West Butte, on a dry hill, 49th parallel; Fossil Coulee, Milk River Ridge. (*Dawson.*) On the Missouri Coteau, 49th parallel. (*Burgess.*)

(1171.) **A. Richardsonii**, Nutt.

Picradenia Richardsonii, Hook. Fl. I., 317.

Dry gravelly hillsides in the prairie region. About Carlton on the Saskatchewan. (*Drummond.*) On ridges west of Moose Moun-

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tain, on the Dirt Hills, on ridges west of Long Lake, and the top of the Cypress Hills. (*Macoun.*) Bottom of Verdigris Coulee, and at Fossil Coulee, Milk River Ridge, Foot Hills of Rocky Mountains. (*Dawson.*)

304. *DYSODIA*, Cav. (FETID MARIGOLD.)

(1172.) *D. chrysanthemoides*, Lag.

Rare. A "railroad weed" at Fort Erie, Ont. (*David F. Day.*)

305. *ACHILLEA*, Linn. (YARROW.)

(1173.) *A. Millefolium*, Linn.

A. borealis, Bongard. Veg. Sitch., 149.

Parnica borealis, DC. Prodr. VI., 21.

Common in meadows and pastures, along the borders of woods and on grassy banks on mountains, and by streams from the Atlantic to the Pacific, and northward to the Arctic Sea. Introduced form in cultivated grounds. Greenland. (*Hook. Arct. Pl.*) Sitka. (*Rothr. Alask.*) A variety with rose colored rays is found in old gardens and often lives for a few years on waste heaps. London, Ont. (*Burgess.*) Annapolis Valley, N.S., along roadsides. (*Macoun.*)

Var. *lanata*, Koch.

A. tomentosa, Pursh. Fl. II., 319.

Along the Pacific Coast. Queen Charlotte Islands. (*Dawson.*)

(1174.) *A. multiflora*, Hook.

A. Parnica, Richard. Frankl. Journ. Ed. II., 33.

In river valleys. Woody country of sub-arctic America as far north as Fort Franklin. (*Richardson.*) In all river valleys from Lake Manitoba to the Rocky Mountains and northward to Lake Athabasca. (*Macoun.*) Qu'Appelle River at Police Barracks. (*J. M. Macoun C. P. R. Coll.*)

(1175.) *A. Parnica*, Linn.

Parnica vulgaris, DC. Prodr. VI., 23.

Introduced. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) Roadside at Truro, N.S.; along the Intercolonial Railway, a little east of Campbellton, N.B. (*Macoun.*) Looks like a native at River Charlo,

Restigouche, and at Kouekibouguac, Kent Co., N.B. (*Fowler's Cat.*) Isle of Orleans, Q. (*Hooker.*) Fields around Campbellton, N.B. (*Chalmers.*)

(1176.) **A. Sibirica.**

Ounalashka and Eschscholtz Bay. (*Rothr. Alask.*)

306. ANTHEMIS, Linn. (CHAMOMILE.)

(1177.) **A. arvensis, Linn.** Wild Chamomile.

Introduced. Halifax, N.S. (*Sommers.*) Buctouche, N.B. (*Fowler's Cat.*) Prof. Fowler says of this that it is without a strong scent. On this account I believe it to be *Matricaria inodora*.

(1178.) **A. tinctoria, Linn.**

On Ballast heaps, St. John, N.B. (*Hay.*) In meadows, Insane Asylum, London, Ont. (*Burgess.*)

307. MARUTA, Cass. (MAY-WEED.)

(1179.) **M. Cotula, DC.**

Anthemis Cotula, Linn. Hook. Fl. I., 318.

Naturalized and abundant along roadsides and in the streets of cities, towns, and villages, throughout all the settled parts of Canada.

308. CHRYSANTHEMUM, Linn. (OX-EYE DAISY.)

(1180.) **C. Leucanthemum, Linn.**

Leucanthemum vulgare, Lam. Macoun's Cat., No. 1000.

Naturalized in old meadows and pastures and by roadsides throughout the settled parts of Canada. An obnoxious weed in many sections of the eastern provinces and Ontario.

(1181.) **C. integrifolium, Richards.**

Leucanthemum integrifolium, DC.

Shores of the Arctic Sea and on the Copper Mountains in Lat. 67°. Probably on all the shores and islands. (*Richardson.*) Port Kennedy, Arctic Sea. (*Capt. Markham.*) Between the Coppermine River and Cape Turnagain, Lat. 67° 54', Long. 115° 31'. (*Dease.*) Montreal Island,

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Arctic Sea. Mouth of Buck's Great Fish River. (*Stewart.*) Kotzebue Sound, island of St. Lawrence, and from Point Barrow to the Mackenzie River. (*Rothr. Alask.*)

(1182.) **C. arcticum**, Linn.

Leucanthemum arcticum, DC. Torr. & Gray Fl. II., 412.

Arctic Sea coast. (*Richardson.*) York Factory, Hudson Bay. (*Drummond.*) Mouth of the Churchill River, Hudson Bay. (*R. Bell.*) Between the Coppermine River and Cape Turnagain, Lat. 67° 54', Long. 115° 31' west. (*Dease.*) Montreal Island, Arctic Sea. (*McGill Coll. Herb.*) Norton Sound to Washington Inlet. (*Rothr. Alask.*)

(1183.) **C. segetum**, Linn. Corn Marygold.

Ballast heaps, St. John, and Carleton, N.B. (*Hay.*)

(1184.) **C. Parthenium**, Pers. Common Fever-few.

Leucanthemum Parthenium, Godron.

A garden escape in a few localities. Gardens, scarcely wild, N.B. (*Fowler's Cat.*) Waste heaps at Belleville and at Campbellford, Ont. (*Macoun.*) A weed in gardens at Port Colborne, Ont. (*David F. Day.*)

(1185.) **C. bipinnatum**, Linn.

Pyrethrum bipinnatum, Willd. DC. Prodr. VI., 60.

Tanacetum Kotzebueense, Bess. Rothrock's Alaska.

Cape Espenberg, Arctic America. (*Eschscholtz.*) Youcon Valley, Alaska. (*L. M. Turner.*)

(1186.) **C. Balsamitae**, Linn. Costmary.

Cultivated in gardens. An escape at Belleville, Ont. (*Macoun.*) On the roadside near Nelson, Ont. (*Millman.*) Along roadsides at Port Dover, Ont. (*Burgess.*)

309. MATRICARIA, Linn. (WILD CHAMOMILE.)

(1187.) **M. inodora**, Linn.

Pyrethrum inodorum, Smith. Hook. Fl. I., 320.

Harbor Grace, Newfoundland. Cornwallis, N.S. (*McGill Coll. Herb.*) Magdalen Islands in the Gulf of St. Lawrence. (*J. Richardson.*) Pictou, N.S. (*McKay.*) Along the Intercolonial at Truro and on ballast heaps at Pictou, N.S. (*Macoun.*) Lake Huron. (*Dr. Todd.*) (All the preceding refer to the introduced plant.) York Factory. (*Drummond.*) York Factory, Hudson Bay. (*R. Bell.*) Bear Lake, Lat. 66°. (*Richardson.*) Kotzebue Sound. (*Rothr. Alask.*) The indigenous

specimens are distinguished by dark brown (almost black) involueral bracts and longer and wider rays. This is certainly not identical with the European form. We agree with Torr. & Gray in thinking that the northern form is perennial. It is not annual as the specimens obtained by Dr. Bell amply prove. Better specimens may show that it is entirely distinct from the European plant.

Var. **nana**, Hook. Fl. I., 320.

Chrysanthemum grandiflorum, Hook. in Parry's 2nd Voy., 398.

Shores and islands of the Arctic Sea. (*Richardson*.) Near the mouth of Back's Great Fish River. (*Stewart*.)

Var. **elligulata**. Seem.

Norton Sound. (*Rothr. Alask.*)

(1188.) **M. discoidea**, DC.

Tanacetum (?) suaveolens, Hook. Fl. I., 327.

Santolina suaveolens, Pursh. Fl. II., 520.

South Kootanie Pass, on Tobacco River, west slope of Rocky Mountains. (*Dawson*.) Straits of De Fuca. (*Scouler*.) On gravel along the Fraser River at Yale, B.C. (*Macoun*.) Near Victoria, Vancouver Island. (*J. Richardson*.) Abundant at Victoria. (*Fletcher*.) Sitka and Ounalashka. (*Rothr. Alask.*)

310. TANCETUM, Linn.

(1189.) **T. vulgare**, Linn. Common Tansy.

Naturalized throughout the country. Usually found in patches in old fields, along roadsides and in lanes near dwellings.

Var. **crispum**, DC.

Leaves more incised and crisped. Frequent in the same situations.

(1190.) **T. Huronense**, Nutt.

T. Douglasii, DC. Prodr. VI., 128.

T. pauciflorum, Richards. Hook. Fl. I., 327.

Omalanthus camphoratus, Less. Hook. Fl. I., 321.

York Factory, Hudson Bay. (*Drummond*.) Growing on sand at the mouth of Jupiter River, Anticosti. (*Macoun*.) On the Restigouche at the mouth of the Upsalquitch and near Campbellton. Shore of St. John River at Fredericton, and all along the river above Fredericton, N.B. (*Fowler's Cat.*) Point-aux-Pins, five miles above the Sault Ste.

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Marie, and on the Sandy Islands, Lake Superior. (*Macoun.*) Ten miles west of Iroquois Point, Lake Superior. (*R. Bell.*) Along the coast of British Columbia. (*Jones.*) Queen Charlotte Islands. (*Dawson.*) Fort Youcon. (*Rothr. Alask.*)

311. ARTEMISIA, Linn. (WORM-WOOD.)

(1191.) **A. dracunculoides**, Pursh.

A. Dracunculus, Pursh. Fl. II., 521.

A. Nuttalliana, Bess. Hook. Fl. I., 326.

On dry gravelly and sandy prairies and open plains from Manitoba to the Rocky Mountains and northward to Peace River. (*Macoun.*) Plains of the Saskatchewan. (*Drummond.*) Chinaman's Rancho above Spence's Bridge, B.C. (*Fletcher.*) Chilcote River west of the Fraser River, B.C. (*Dawson.*)

(1192.) **A. glauca**, Pall.

A. glauca, var. *fastigiata*, Bess. DC. Prodr. VI., 97.

A. dracunculoides, var. *incana*, Torr. & Gray Fl. II., 416.

We understand this species to be what we have formerly considered an unbranched state of the preceding species. Should this view be correct, it ranges from Manitoba to the Rocky Mountains or throughout the whole prairie region. (*Macoun.*) Saskatchewan. (*Drummond.*)

(1193.) **A. borealis**, Pall. Var. **spithamea**, Torr. & Gray Fl. II., 417.

A. borealis, Pall. var. *Purshii*, Hook. Fl. I., 326.

A. spithamea, Pursh Fl. II., 522.

Labrador. (*Kotmeister.*) On exposed limestone rocks a little east of South-west Point Lighthouse, Anticosti. (*Macoun.*) Rocky Mountains. (*Drummond.*) Arctic shores of North America. (*Richardson.*) On both sides of Baffin's Bay and Davis Strait. (*Capt. Markham.*) Back's Great Fish River and Gulf of Boothia. (*Back.*) Greenland. (*Hook. Arct. Pl.*)

Var. **Wormskioldii**, Bess. Torr. & Gray Fl. II., 417.

Hudson Bay and mountains of Lower Canada [where it seemingly passes into *A. Canadensis* in Coll. Allen.] (*Gray.*) On high cliffs at Mont Louis, and on the summit of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Islands along the north-west coast of America. (*Scouler.*) Sitka and Kotzebue Sound. (*Rothr. Alask.*)

(1194.) **A. Canadensis**, Michx.

A. campestris, Pursh Fl. II., 521.

A. desertorum, Hook. Fl. I., 325, in part.

Along sea beaches and on lake shores and by rivers throughout Canada. On gravelly ridges and sand dunes on the prairies and open plains and through the Rocky Mountains extending to the Pacific Coast. (*Macoun.*) From Hudson Bay across the wooded country northward to the Arctic Circle and west to the Pacific. (*Hooker.*)

(1195.) **A. caudata**, Michx.

Half Way Island, Detroit River, Ont. (*MacLagan.*) On dry exposed ridges western plains. On gravel ridge west of Fort Ellice, Man. (*Macoun.*)

(1196.) **A. cana**, Pursh. Sage Brush.

Plains of the Saskatchewan. (*Drummond.*) From the confluence of the Assiniboine and Qu'Appelle on arid clay or dry sand southwardly across the plains. Common westward from Old Wives Lakes to Calgary, and south to the 49th parallel. (*Macoun.*)

(1197.) **A. tridentata**, Nutt.

On very arid soil. Where this plant grows the soil needs irrigation. It is altogether unknown north of the 49th parallel, east of the Rocky Mountains. (*Macoun.*) Flathead River, B.C. (*Dawson.*)

(1198.) **A. trifida**, Nutt.

On very arid soil from, Spence's Bridge to C  che Creek, interior of British Columbia. (*Hill & Fletcher.*) Along the shore of Osoyoos Lake, B.C. (*Dawson.*)

(1199.) **A. longifolia**, Nutt.

On arid clay banks of Ribstone and Stoney creeks, east of Hand Hills, also at Old Wives Lakes and north of Cypress Hills, apparently rare, but possibly overlooked. (*Macoun.*)

(1200.) **A. discolor**, Dougl.

A. Ludoviciana, Bess. Hook. Fl. I., 322.

Rocky Mountains, and Arctic America. (*Richardson.*) Bow River Pass, Rocky Mountains. (*Macoun.*) South Kootanie Pass, 49th parallel; Nicola Valley, B.C. (*Dawson.*) On rocky banks at Yale, B.C. (*Macoun.*) Spence's Bridge, B.C. (*Fletcher & Hill.*)

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(1201.) **A. Lindleyana**, Bess.

Probably along the southern boundary of British Columbia. Imperfect specimens with linear leaves and a spicate inflorescence have been referred here. Chilcote River, B.C. (*Dawson*.)

(1202.) **A. Ludoviciana**, Nutt.

A. integrifolia, Pursh Fl. II., 520.

A. Purshiana, β . *angustifolia*, Bess. Hook. Fl. I., 323.

Banks of the Red River. (*Douglas*.) From Manitoba westward, quite common. (*Macoun*.) East and West Forks of Milk River, 49th parallel. This is the most common variety of "Sage" on the third prairie plateau and grows very abundantly on dry open plains and dry valleys. (*Dawson*.) Upper leaves or all of them entire, clothed above and below with *tomentum*.

Var. **gnaphalodes**, Torr. & Gray Fl. II., 420.

A. gnaphalodes, DC. Prodr. VI., 115.

Common on dry knolls throughout the prairie region, more especially westward. (*Macoun*.) Frequent along the 49th parallel; also, Garrett's Rancho, Old Man River. (*Dawson*.) Leaves serrate at the tips.

Var. **latiloba**, Nutt.

Rocky Mountains. (*Scouler*.) Spence's Bridge, B.C. (*Fletcher*.) Leaves very much lobed and almost glabrous above.

Var. **latifolia**, Torr. & Gray.

A. Purshiana, var. *a. latifolia*, Bess. Hook. Fl. I., 323.

On the plains of the Saskatchewan. (*Drummond*.) Common on the prairie south of Battleford and east of the Hand Hills. (*Macoun*.) Old Wives Lakes, N.W.T. (*J. M. Macoun C. P. R. Coll.*) Tobacco Plains, Kootanie Valley, B.C. (*Dawson*.)

Var. **Douglasiana**, Eaton in Bot. King Exp., 183.

A. Douglasiana, Bess. Hook. Fl. I., 323.

Banks of North Saskatchewan above Fort Carlton. Also, on the prairie twenty miles south of Battleford. (*Macoun*.) This form has wholly entire leaves which are linear lanceolate and almost acuminate.

(1203.) **A. vulgaris**, Linn. Mug-wort.

Throughout Canada, and as far north as the Arctic Circle. (*Richardson*.) The introduced form is found at Beesie River, Anticosti, and at Annapolis, N. S. (*Macoun*.) Waste grounds near houses, N. B. (*Fowler's Cat.*) Quite common along railways and in the neighborhood of towns and villages throughout Quebec and Ontario.

Var. **Californica**, Bess.

A form which is referred here was gathered in the neighborhood of Victoria, Vancouver Island, by Mr. Fletcher, in August, 1883. The plants are stout but not tall, and are thickly covered with leaves, which are smooth and green above but covered with white *tomentum* below. The greater number are serrate, but some of the lower ones are slightly lobed.

Var. **Tilesii**, Ledeb.

A. Tilesii, Ledeb. Torr. & Gray Fl. II, 421.

Arctic seashore between the Mackenzie and Coppermine rivers. (*Richardson*.) East coast of Hudson Bay. (*R. Bell*.) Fort St. Michaels and western and northern coasts. (*Rothr. Alask.*) Fort Selkirk, Youcon River. Lat. 62° 45'. (*Schwatka*.)

(1204.) **A. Richardsoniana**, Bess.

A. arctica, Bess. Hook. Fl. I., 323.

A. caespitosa, Hook. Fl. I., 323.

From Bear Lake to the shore of the Arctic Sea. (*Richardson*.) Between the Coppermine River and Cape Turnagain. Lat. 67° 54', Long. 115° 31' west. (*Dease*.) Lake Beechy. (*Stewart*.)

(1205.) **A. Norvegica**, Fries.

A. Chamissoniana, var. *saxatilis*, Bess. Hook. Fl. I., 324.

A. arctica, Less. Torr. & Gray Fl. II, 423.

Alpine and sub-alpine region of the Rocky Mountains from Lat. 62-49°. (*Gray*.) Woods in the Rocky Mountains, Lat. 52°. (*Drummond*.) Cariboo mountains in northern British Columbia. (*Cowley*.) Kloo-teh-oot-a Lake, B.C. (*Dawson*.)

Var. **Pacifica**, Gray.

A. Chamissoniana, Bess. Hook. Fl. I., 324, in part.

Arctic Sea shore. (*Richardson*.) Cape Lisburne and Point Hope, and possibly Sitka. (*Rothr. Alask.*)

(1206.) **A. glomerata**, Ledeb. Hook. Fl. I., 324.

Bay of St. Lawrence. (*Chamisso*.) Kotzebue Sound. (*Rothr. Alask.*) Arctic Alaska. (*Gray*.)

(1207.) **A. globularia**, Cham.

Ounalashka and island of St. Lawrence. (*Rothr. Alask.*) Arctic Alaska and islands. (*Gray*.) St. Paul's Island. (*Mrs. Macintyre*.)

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- (1208.) **A. Senjavinensis**, Bess.

Kotzebue Sound. (*Beechy*.)

- (1209.) **A. biennis**, Willd.

This species has its home in the west where it is very abundant in the valleys of all the rivers and small streams. Of late it has been reported from all the eastern provinces, and is rapidly spreading by means of the railways to every part of the country. From Hudson Bay to the McKenzie River. (*Richardson*.) Dry interior of British Columbia. (*Dawson*.)

- (1210.) **A. frigida**, Willd. Pasture Sage Brush.

A. frigida, Willd. Var. *Gmeliniana*, Bess. Hook. Fl. I., 321.

Very abundant on dry exposed hills and river banks from Manitoba westward to the Rocky Mountains, and northwards to Peace River. West and south of the Cypress Hills this species is very common and makes up with *Eurotia lanata* much of the winter cattle feed in those districts. At Cornwall's, in the interior of British Columbia, where there is scarcely a blade of grass this plant produces abundance of herbage and is invaluable as a winter food plant. Both in British Columbia and east of the Rockies, in the grazing country, this plant will yet be highly prized for its heat producing qualities during the coldest winter weather. Its northern limit as far as known to me is the northern bank of Peace River in Lat. 58°. Mackenzie River. (*McGill Coll. Herb.*)

- (1211.) **A. Absinthium**, Linn. Wormwood.

Naturalized in numerous places by roadsides, in lanes and around dwellings from Newfoundland to the western part of Ontario. At Moose Factory, James Bay. (*Gray*.)

312. LUINA, Benth.

- (1212.) **L. hypoleuca**, Benth.

In the Cascade Mountains, on the border of British Columbia. (*Lyall*.)

313. TUSSILAGO, Tourn. (COLTSFOOT.)

- (1213.) **T. Farfara**, Linn.

Introduced and naturalized, by roadsides and in pastures in a few places in the Maritime provinces. Abundant in and around Yarmouth,

N.S. (*Macoun.*) Spreading from ballast in several places, N.B. (*Fowler's Cat.*) St. Stephen, N.B. (*Vroom*)

314. PETASITES, Tourn. (SWEET-COLTSFOOT.)

(1214.) *P. palmata*, Gray.

Nardosmia palmata, Hook. Fl. I., 308. Macoun's Cat., No. 826.

Tussilago palmata, Ait. Pursh Fl. II., 531.

In cedar swamps and bogs. Swamps and shady banks of streams from Newfoundland and Labrador to the Rocky Mountains and north to Bear Lake, Lat. 67°. (*Richardson.*) From Cape Breton, Nova Scotia, New Brunswick, Quebec, Ontario and westward through the prairie region and Rocky Mountains to British Columbia. (*Macoun.*)

(1215.) *P. sagittata*, Gray.

Nardosmia sagittata, Benth. Torr. & Gray Fl. II., 93. Macoun's Cat., No. 827.

Tussilago sagittata, Ait. Pursh Fl. II., 332.

Very abundant in swamps at Emerson and Totogon, Manitoba, and westward in boggy places to the Rocky Mountains, and throughout northern British Columbia. (*Macoun & Dawson.*) Hudson Bay to the swamps in the Rocky Mountains. (*Drummond.*) From Lake Superior (?) in Lat. 48° to Fort Franklin in Lat. 66°. (*Richardson.*) Abundant on dry clay banks, from Lytton to Spence's Bridge, B.C. (*Fletcher.*)

(1216.) *P. frigida*, Fries.

Nardosmia corymbosa, Hook. Fl. I., 308. Macoun's Cat., No. 828.

Nardosmia frigida, Hook. Fl. I., 307.

Tussilago frigida, Linn. Pursh Fl. II., 531.

From Lake Winnipeg in Lat. 52° to Fort Franklin in Lat. 66°. (*Richardson.*) Arctic America from Melville Island to Kotzebue Sound, and south to Fort Norman, in about Lat. 65°. (*Torr. & Gray.*) Ounalashka, Norton Sound and the northern coast of Alaska. (*Rothr. Alask.*) Arctic coast and west to the Aleutian Islands. (*Gray.*)

315. ARNICA, Linn. (ARNICA.)

(1217.) *A. cordifolia*, Hook.

Alpine woods of the Rocky Mountains, on the east side. (*Drummond.*) South Kootanie Pass, 49th parallel; western summit of the North Kootanie Pass; Flat Head River, B.C. (*Dawson.*) Bow River Pass;

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also, woods along the Fraser above Boston Bar, B.C. (*Macoun.*) At the crossing of the Blackwater River, B.C. (*Dawson.*)

(1218.) ***A. latifolia***, Bongard.

A. Menziesii, Hook. Fl. I., 331.

In the woods and rivulets of the Rocky Mountains. (*Drummond.*) Mountains in the Bow River Pass. (*Macoun.*) South Kootanie Pass, 49th parallel; Crow Nest Lake, Crow Nest Pass; also, Skagit River, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) North-west coast of America. (*Menzies.*) Observatory Inlet. (*Scouler.*) Sitka. (*Rothr. Alask.*)

(1219.) ***A. Chamissonis***, Less.

A. mollis, Hook. Fl. I., 231. Macoun's Cat., No. 1051.

Grand Falls of Nepisiquit River, N.B. (*Fowler's Cat.*) Tobique Narrows, N.B. (*Huy.*) Andover and Grand Falls, N.B. (*Wetmore.*) Very common on the upper part of the Ste. Anne des Monts River and on the upper slopes of Mount Albert, Gaspé. (*Macoun.*) Gros Cap, Lake Superior. (*R. Bell.*) South Kootanie Pass, 49th parallel. (*Dawson.*) Bow River Pass; also on mountains at Spence's Bridge, B.C. (*Macoun.*) Charlotte Islands: (*Dawson.*) Ounalashka. (*Rothr. Alask.*) Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*) Bartlett Bay, Alaska. (*Meehan.*)

(1220.) ***A. foliosa***, Nutt.

A. Chamissonis, Torr. & Gray Fl. II., 449, in part.

A. montana, Hook. Fl. I., 330, in part. Macoun's Cat., No. 1054.

Wooded country from the Saskatchewan to the Rocky Mountains. (*Drummond.*) From Fort Ellice westward in thickets and damp prairies to the Rocky Mountains and northward to the Peace River. (*Macoun.*) Eu-ti-a-kwe-ta-chick Lake, B.C. (*Dawson.*)

(1221.) ***A. amplexicaulis***, Nutt.

Woods and shaded rocks, Oregon to British Columbia. (*Lyall.*) In woods at the Pine Pass, Lat. 55°. (*Dawson.*)

(1222.) ***A. alpina***, Murr.

A. angustifolia, Vahl. Torr. & Gray Fl. II., 449. Macoun's Cat., No. 1049.

A. montana β. *alpina*, Linn. Hook. Fl. I., 330.

Labrador, and the Arctic coast to the Saskatchewan. (*Torr. & Gray.*) Very common in many parts of Manitoba, especially around and a little west of Brandon. (*Macoun.*) On the prairie south of Moose

Mountain. (*J. M. Macoun C.P.R. Coll.*) Fossil Coulée, Milk River Ridge and in the South Kootanie Pass, 49th parallel. (*Dawson.*) Vicinity of Spence's Bridge on the Thompson River, B.C. (*Macoun & Hill.*) Fort Selkirk, Youcon River, Lat. $62^{\circ} 45'$. (*Schwatka.*) Crow Nest Pass, Rocky Mountains. (*Dawson.*) Top of Stuart Lake Mountain, B.C. (*Macoun.*) Melville Island. (*Capt. Markham.*) Back's River and Gulf of Boothia. (*Back.*) Between the Coppermine River and Cape Turn-again, Lat. $67^{\circ} 54'$, Long. $115^{\circ} 31'$ west. Vicinity of Fort Confidence, Lat. 66° . (*Dease.*) Upernavik, Lat. 73° . (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*) The mountain specimens referred here are very woolly in every part and are altogether unlike the *alpina* of the plains, being covered with white wool, instead of a yellowish crisped or glandular pubescens which is found on all specimens of our prairie *alpina*.

(1223.) **A. obtusifolia**, Less.

Shumagin Islands. (*Harrington.*) Ounalashka. (*Rothr. Alask.*)

(1224.) **A. Unalaschkensis**, Less.

Aleutian Islands, and Behrings Island. (*Gray.*) Ounalashka. (*Rothr. Alask.*)

(1225.) **A. Sachalinensis**, Gray.

On the Island of Sachalin off the coast of Alaska. (*Gray.*)

316. CROCIDIUM, Hook.

(1226.) **C. multicaule**, Hook.

On grassy places around Victoria, Vancouver Island. (*Macoun & Dawson.*)

317. ERECHTITES, Raf. (FIRE-WEED.)

(1227.) **E. hieracifolia**, Raf. Fire-weed.

Senecio hieracifolius, Linn. Hook. Fl. II., 332.

Moist places in recently burned clearings. Very common throughout Newfoundland and Canada, and extending west to the Saskatchewan.

318. SENECIO, Linn. (GROUNDSEL.)

(1228.) **S. vulgaris**, Linn. Common Groundsel.

Waste and cultivated grounds, especially gardens. Very common

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in the Maritime provinces and apparently spreading. Newfoundland, Labrador and Hudson Bay. (*Hooker.*) Not abundant in Ontario, but occasionally met with. Common in British Columbia. (*Macoun & Fletcher.*)

(1229.) ***S. viscosus***, Linn. (Stinking Groundsel.)

Abundant and naturalized along the Intercolonial Railway in Nova Scotia, especially at Truro, New Glasgow, and Pictou, (*Macoun.*) Spreading at Shediac, Bathurst and other points, N.B. (*Fowler's Cat.*) Windsor Junction, N.S. (*Lawson.*)

(1230.) ***S. sylvaticus***, Linn.

Of sparing occurrence in waste ground, Nova Scotia. (*Gray.*)

(1231.) ***S. palustris***, Hook. Marsh Groundsel.

Mahoné Bay, Lunenburg Co., N.S. (*Ball.*) ? Very doubtful. From the Saskatchewan to the extreme Arctic islands. (*Richardson.*) Rather common on the borders of saline marshes and lakes throughout the western part of the prairie region and northward to Lake Athabasca. (*Macoun.*) Norton Sound, Kotzebue Sound, Wainwright Inlet and on the northern shore of Alaska. (*Rothr. Alask.*) English River, N.W.T. (*Back.*) Greenland. (*Hook. Arct. Pl.*)

Var. ***congesta***, Hook. Fl. I., 334.

Chiefly in the Arctic regions. (*Richardson.*) Gulf of Boothia. (*Back.*) West of the Mackenzie River, along the coast. (*Dease.*)

(1232.) ***S. Hookeri***, Torr. & Gray Fl. II., 438.

S. integrifolius, Hook. Fl. I., 335.

Woody country in Lat. 54° to the shores of the Arctic Sea. (*Richardson.*) Rocky Mountains, Lat. 52°. (*Drummond.*) Kotzebue Sound. (*Rothr. Alask.*) A specimen ticketed *S. Hookeri* from the Mackenzie River is in McGill Coll. Herb. It is extremely like a small form of *S. Pseudo-Arnica*. (*Macoun.*)

(1233.) ***S. megacephalus***, Nutt.

Along Belly River. (*Dawson.*) Near the British boundary, Lat. 49°. (*Lyall.*)

(1234.) ***S. lugens***, Richards.

Fort Confidence, Lat. 66°. (*Dease.*) Bloody Fall, Coppermine River; also, from Fort Franklin to the coast. (*Richardson.*) Middle branch of North Fork of Old Man River. (*Dawson.*) Bow River

Pass, Rocky Mountains ; along the Fraser River above Boston Bar, B.C. (*Macoun.*) West side of the Rocky Mountains. (*Douglas.*) Kotzebue Sound and Cape Good Hope, also Fort Youcon. (*Rothr. Alask.*)

Var. **exaltatus**, Gray.

S. exaltatus, Torr. & Gray Fl. II., 439.

Crow Nest Pass, east of the Lake ; also, western summit of North Kootanie Pass. Summit of Cascade Mountains near Hope, B. C. (*Dawson.*) On the Lower Fraser near New Westminster, B.C. (*Hill.*)

(1235.) **S. integerrimus**, Nutt.

On limestone rocks, Narrows of Lake Manitoba ; on the prairie around Brandon, vicinity of Spy Hill and on the Souris Plain near the Dirt Hills and in Bow River Pass. (*Macoun.*) On the Souris Plain for 40 miles west of Moose Mountain Creek. (*J. M. Macoun C. P. R. Coll.*)

(1236.) **S. amplexans**, Gray.

South Kootanie Pass, 49th parallel. (*Dawson.*) Said by Eaton to be an extreme form of this species.

(1237.) **S. aureus**, Linn.

This species runs into numerous forms which pass into each other by insensible degrees. Under various varietal names it ranges from the Atlantic to the Pacific.

S. aureus, Linn. (Typical.)

S. gracilis, Pursh Fl. II., 529.

Radical leaves orbicular or roundish ovate, mostly cordate, crenate, serrate, petioled. Chiefly in swamps or wet meadows. Halifax, N.S. (*Sommers.*) Abundant in New Brunswick (no forms mentioned.) (*Fowler's Cat.*) Restigouche, N.B. (*Chalmers.*) Swamps and sandy woods along the Ste. Anne des Monts River, Gaspé ; in Perry's swamp near Hilton, Brighton Township, Northumberland Co. ; near Amherstburgh on Lake Erie, and 20 miles up the Kaministiquia River, west of Lake Superior. (*Macoun.*) Swamps, London, Ont., also at Emerson on the Red River. (*Burgess.*) Throughout Canada to the Arctic Circle and from Newfoundland and Labrador to the Rocky Mountains and the Pacific. (*Hooker.*) South Kootanie Pass, 49th parallel ; Flat Head River, B.C. (*Dawson.*)

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Var. obovatus, Torr. & Gray Fl. II., 442.*S. aureus* β . *gracilis*, Hook. Fl. I., 333.*S. obovatus*, Pursh Fl. II., 529.*S. Elliottii*, Torr. & Gray Fl. II., 443.

Radical leaves varying from roundish-obovate to oblong-spatulate. This form has a very wide range and extends westward to the Chilcoten River in British Columbia. Frequent in Nova Scotia, Windsor Junction and Pictou. (*Lawson & McKay*.) Various points in Quebec and along the Gaspé coast; also, Ontario and throughout the prairie region to the Chilcoten River. (*Dawson*.)

Var. borealis, Torr. & Gray Fl. II., 442.*S. aureus*, Hook. Fl. I., 333, in part.

Radical leaves thickish, mostly crenulate-toothed at the apex only. North-west angle of the Lake of the Woods. (*Macoun*.) Crow Nest Pass, Rocky Mountains; also on Cascade Mountains east of Hope, B.C. (*Dawson*.) Valley of the Buonaparte, and near Clinton, B.C. (*Macoun*.) Labrador to British Columbia. (*Gray*.)

Var. discoideus, Hook. Fl. I., 333.

Rays wanting. Leaves of various forms. Labrador. (*Pursh*.) River Ste. Anne des Monts, Gaspé, and in sand on the margin of rivers in the prairie region. (*Macoun*.) Mackenzie River. (*Richardson*.) Along the Lower Fraser, B.C. (*Cowley*.)

Var. Balsamitæ, Torr. & Gray Fl. II., 442.*S. Balsamitæ*, Muhl. Hook. Fl. I., 332.*S. pauperculus*, Michx. Fl. II., 120.

Radical leaves, oval, oblong, spatulate and lanceolate. Achenia smooth or strigose puberulent. Common on rocks or sand. River de Brig, Anticosti. (*Macoun*.) Halifax, N.S. (*Sommers*.) Rocky shores of the Kennebecasis, N.B. (*Hay*.) Various places in Quebec and Ontario, and westward to British Columbia. All the specimens examined have perfectly smooth achenia, except those collected on sand hills near Fort Ellice and on Boss Hill sand ridges west of Brandon, Manitoba. (*Macoun*.)

Var. lanceolatus, Oakes. Torr. & Gray Fl. II., 442.

This form has thin, lanceolate-oblong, radical leaves on long petioles. It is quite common in ditches and marshy places in many parts of Nova Scotia, especially between Truro and Windsor Junction, and on the South Eastern Railway between New Glasgow and the Gut of Canso. (*Macoun*.) Windsor, N.S. (*How*.) Hartland, Carleton Co., N.B. (*Hay*.)

Var. **subnudus**, Gray.*S. subnudus*, DC. Prodr. VI., 428.*S. Cymbalaria*, Pursh Fl. II., 530. (?)

Wet ground on mountains, Wyoming to British Columbia. The most depauperate form. (*Gray.*)

(1238.) **S. canus**, Hook.*Cineraria integrifolia* β . *minor*, Pursh Fl. II., 528.

Banks of the Saskatchewan, rare. (*Drummond.*) Very abundant on many parts of the prairie region from the eastern part of Manitoba to the Rocky Mountains. (*Macoun.*) On the Souris Plain south of Moose Mountain. (*J. M. Macoun C. P. R. Coll.*) White Mud River, 49th parallel, and Fossil Coulée, Milk River Ridge. (*Dawson.*)

Var. β . Torr. & Gray Fl. II., 443.

Lake Huron. (*Dr. Todd, vide Hooker.*) Abundant in the vicinity of Spy Hill, west of Fort Ellice, Man. (*Macoun.*) Probably common on the prairies.

(1239.) **S. Fremonti**, Torr. & Gray Fl. II., 445.

On the Rocky Mountains in Lat. 49°. (*Lyall.*) In the South Kootanie Pass at an altitude of 6,500 feet. (*Dawson.*)

(1240.) **S. eremophilus**, Richards.

Woods of the Saskatchewan. (*Drummond.*) On the gravelly banks of Cedar Lake, Lat. 54°, and thence to Fort Franklin on the Mackenzie River. (*Richardson.*) Common from the Cypress Hills, in thickets and in river valleys westward to the Rocky Mountains and northward to Lake Athabasca, Lat. 59°. (*Macoun.*) Qu'Appelle Valley at the Police Station. (*J. M. Macoun C.P.R. Coll.*)

(1241.) **S. Jacobæa**, Linn. Common Ragwort.

Introduced. Very abundant along the Pictou and Truro Railway, especially in the cuttings between New Glasgow and Pictou, N.S. (*Macoun.*) Pictou and vicinity, a pernicious weed supposed to be injurious to cattle, N.S. (*McKay.*) Whyecomah, Cape Breton. (*Lindsay.*) Spreading rapidly at Newcastle and Miramichi, N.B. (*Fowler's Cat.*) Growing along the roadside near Burlington (Wellington Square), Ont. (*Burgess.*) This is evidently the *S. palustris* of Buchan's List in Canadian Journal.

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(1242.) **S. Pseudo-Arnica**, Less.*Arnica maritima*, Linn. Pursh Fl. II., 528.*A. Doronicum*, Willd. Hook. Fl. I., 331.*A. (?) maritima*, Willd. Hook. Fl. I., 331.

Newfoundland and Labrador, (*Hooker*.) Very abundant on gravel beaches along the coasts of Anticosti and Gaspé, and growing from a few inches to five feet high and with from one to sixteen large flowers in a corymb. (*Macoun*.) Coast of Queen Charlotte Islands. (*Dawson*.) North-west Coast. (*Nelson*.) Common on the western shore of Alaska; also on Chamisso Island. (*Rothr. Alask.*) Along the coast of Vancouver Island. (*Meehan*.)

(1243.) **S. resedifolius**, Less.

On the Rocky Mountains in the South Kootanie Pass at 6,500 feet, altitude; also, western summit of the North Kootanie Pass. (*Dawson*.) On limestone at the mouth of Bear Lake River, and about Fort Norman and Fort Franklin. (*Richardson*.) Cape Lisburne and Kotzebue Sound. (*Rothr. Alask.*)

Var. **Columbiensis**, Gray.

Mucklung River, British Columbia. (*Mrs. Mackay*.)

(1244.) **S. frigidus**, Less. Hook. Fl. I., 334.

Newfoundland (?) and Labrador. (*Gray*.) Barren country from Lat. 64° to the shores of the Arctic Sea. (*Richardson*.) Kotzebue Sound, Cape Lisburne, and Island of St. Lawrence. (*Rothr. Alask.*) West of the Mackenzie River along the coast. (*Dease*.) Beechy Lake, Back's Great Fish River. (*Anderson*.)

(1245.) **S. triangularis**, Hook.

S. longidentatus, DC. Prodr. VI., 428.

Moist prairies among the Rocky Mountains. (*Drummond*.) House Mountain, west of Little Slave Lake. (*Macoun*.) Rocky Mountains, at an altitude of 6,000 feet, on the 49th parallel; Michell Creek, Crow Nest Pass. (*Dawson*.) Sitka and Eschscholtz Bay. (*Rothr. Alask.*) Lake Lindeman, source of the Youcon River, Lat. 60°. (*Schwatka*.)

(1246.) **S. — ?**

A small specimen in general appearance like *S. resedifolius* was gathered in the South Kootanie Pass by Dr. G. M. Dawson. It differs from the above species by having the lower part of the stem covered with white tomentum as well as the under side of the leaves which are almost pinnatifid. Better specimens are required before it can be satisfactorily determined.

(1247.) **S. hydrophilus**, Nutt.

In water or very wet ground, especially in brackish water, Montana to British Columbia. (*Gray.*)

319. CACALIA, Linn. (INDIAN PLANTAIN.)(1248) **C. atriplicifolia**, Linn.

Senecio atriplicifolius, Hook. Fl. I., 332.

Canada. (*Cleghorn vide Hooker.*) Moist woodland, western Ontario. (*Torr. & Gray.*) Not collected recently.

(1249.) **C. tuberosa**, Nutt.

Marsh at the head of Chicken Bay, Lake Huron, Bruce Peninsula. (*Macoun.*)

Excluded Species.

Cacalia suaveolens, Linn, reported from Windsor, N.S., is *Erechtites hieracifolia*, Raf.

320. TETRADYMIA, DC.(1250.) **T. canescens**, DC.

Hills and plains, along with *Artemisia tridentata*, N. Wyoming and British Columbia. (*Gray.*)

321. Arctium, Linn. (BURDOCK.)(1251.) **A. Lappa**, Linn. Common Burdock.

Lappa major, Gaertn. Torr. & Gray Fl. II., 463.

L. officinalis, All. var. *major*, Gray, Manual, page 275. Macoun's Cat., No. 1071.

Naturalized throughout the settled parts of the country and becoming a pest on vacant lots in towns and cities. In the country places it is seen in too great profusion about farm houses.

Var. **tomentosum**, Gray.

Collected at Morrison's Mill, Fredericton; also, abundant at Richmond, Carleton Co., N.B. (*Vroom.*)

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Var. **minus**, Gray. Lesser Burdock.

Pictou, N.S. (*McKay*.) A form which probably belongs here was found in some abundance at the railway station, Digby, N.S. (*Macoun*.)

322. CARDUUS, Tourn. (PLUMELESS THISTLE.)

(1252.) **C. nutans**, Linn. Musk Thistle.

Spreading from ballast at Chatham, N.B. (*Fowler's Cat.*)

(1253.) **C. crispus**, Linn. Welled Thistle.

Introduced, but scarcely naturalized. Sparingly in the streets of South Sidney, Cape Breton; and on ballast heaps at Pictou, N. S. (*Macoun*.) West side of Courtenay Bay, city of St. John, N. B. Apparently naturalized. (*Hay*.)

323. CNICUS, Vaill. (COMMON OR PLUMED THISTLE.)

(1254.) **C. lanceolatus**, Hoffm. Common Roadside Thistle.

Cirsium lanceolatum, Scop. Gray, Manual, page 273. Macoun's Cat., No. 1066.

Naturalized in pastures and along roadsides throughout Canada. Very abundant along the margin of woods and in half-cleared lands, in Ontario. Victoria, Vancouver Island. (*Fletcher*.)

(1255.) **C. Pitcheri**, Torr.

Cirsium Pitcheri, Torr. & Gray. Gray, Manual, page 273. Macoun's Cat., No. 1067.

Borders of fields near Fort William, Thunder Bay. (*Macoun*.)

(1256.) **C. undulatus**, Gray. Western Prairie Thistle.

Cirsium undulatum, Spreng. Gray Manual, page 273. Macoun's Cat., No. 1065.

C. Hookerianum, Nutt. Torr. & Gray Fl. II., 457.

Abundant on the western prairies from Manitoba to the Rocky Mountains and northward to the limits of the prairie. (*Macoun*.) Banks of the Saskatchewan. (*Drummond*.) Turtle Mountain, 49th parallel, at Garrett's Rancho, Old Man River, N.W.T.; also, Kootanie Valley, B.C. (*Dawson*.) Spence's Bridge, B.C. (*Fletcher*.)

(1257.) **C. pumilus**, Torr. (?)

Cirsium pumilum, Spreng. Gray, Manual, page 274.

This form is apparently quite distinct from *C. undulatus*, as it is

pubescent, not *tomentose*, with wide, crisped hairs on the stem, sparsely so on the upper side and very slightly below, except on the veins. Its leaves are undulate, but not pinnatifid and the margin is thickly covered with weak spines. Stem one flowered; flower purple, inner bracts an inch and a quarter long with broad tips having scarious or ciliate margins, these bracts are thickly covered with minute glands which give a powdery appearance to them. In general appearance the two forms have no resemblance whatever.

(1258.) **C. altissimus**, Willd. var. **discolor**, Gray.

Cirsium discolor, Spreng. Gray, Manual, page 273. Macoun's Cat., Nos. 1060 and 1068.

Dry fields and thickets not common. Bank of the St. Lawrence River three miles west of Prescott, Ont. (*Billings*.) Meadows and thickets at Belleville and Castleton, Ont. (*Macoun*.) Vicinity of Hamilton, Ont. (*Logie*.) Chippewa and Malden, Ont. (*MacLagan*.) English's Woods, not uncommon, London, Ont. (*Saunders*.) Abundant in many places along the Great Western Railway, between Sarnia and Hamilton. (*Macoun*.)

(1259.) **C. muticus**, Pursh.

Cirsium muticus, Nutt. Hook. Fl. I., 302.

Cirsium muticum, Michx. Gray, Manual, page 273. Macoun's Cat., No. 1061.

Common in swamps. Newfoundland, Anticosti, Nova Scotia, New Brunswick and westward to the Saskatchewan. (*Macoun*.) Specimens from Anticosti and the Shickshock Mountains are different in habit from the western ones and agree with the *C. glutinosa* of Bigelow.

(1260.) **C. Drummondii**, Gray.

Cirsium pumilus, Hook. Fl. I., 302.

Cirsium Drummondii, Torr. & Gray Fl. II., 459. Macoun's Cat., No. 1064.

Banks of the Saskatchewan and prairies of the Rocky Mountains. (*Drummond*.) From Fort Franklin, Lat. 66° to the Saskatchewan. (*Gray*.) From the head of Lake Winnipegosis, westward throughout the wooded and mixed prairie country to the Rocky Mountains and Peace River. (*Macoun*.)

Var. **acaulescens**, Gray.

Cirsium acaule, var. *Americanum*, Gray. Proc. Acad. Philad. 1863.

Along the North Saskatchewan west of Fort Pitt; also on the prairie 30 miles south east of Battleford. (*Macoun*.)

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(1261.) **C. foliosus**, Gray.*Carduus foliosus*, Hook. Fl. I., 303.*Cirsium foliosum*, DC. Torr. & Gray Fl. II., 461. Macoun's Cat., No. 1063.

Prairies of the Rocky Mountains. (*Drummond.*) South Kootanie Pass, 49th parallel; also, North Fork of Old Man River, Rocky Mountains. (*Dawson.*)

(1262.) **C. arvensis**, Pursh. Canada Thistle.*Carduus arvensis*, Smith. Hook. Fl. I., 302.*Cirsium arvense*, Scop. Gray, Manual, page 274. Macoun's Cat., No. 1062.

Naturalized throughout the country and become a pestilent weed on all badly cultivated farms. Many country roads in Ontario are almost impassable in summer owing to the prevalence of this pest.

(1263.) **C. Hookerianus**, Gray.*Carduus discolor*, var. *fl. albis*, Hook. Fl. I., 302.

Upper wooded and sub-alpine region of the Rocky Mountains, north of Lat. 49°. (*Douglas & Bourgeau.*) At the base of the high limestone cliffs at the entrance to Bow River Pass. (*Macoun.*)

(1264.) **C. edulis**, Gray.

Wet or shady places, along the southern boundary of British Columbia. (*Gray.*)

(1265.) **C. Kamtschaticus**, Maxim.*Cirsium Kamtschaticum*, Ledeb. DC. Prodr. VI., 644.

Atkha, one of the Aleutian Islands. (*Gray.*)

324. ONOPORDON, Vaill. (SCOTCH THISTLE.)(1266.) **O. acanthium**, Linn.

Waste grounds generally escaped from gardens. Pictou, N. S. (*McKay.*) Buctouche and Bass River, N. B. Rare. (*Fowler's Cat.*) Vicinity of London, Ont. (*Burgess.*) Vicinity of St. Thomas, Ont. (*McGill Coll. Herb.*)

325. SAUSSUREA, DC.(1267.) **S. alpina**, DC. Hook. Fl. I., 303, in part.*S. monticola*, Richards. Hook. Fl. I., 303.

Elevated parts of the Rocky Mountains. (*Drummond.*) Eastern

summit of the North Kootanie Pass. (*Dawson.*) Rocky Mountains, Bow River Pass. (*Bourgeau.*)

Var. **Ledebouri**, Gray.

S. subsinuata, Ledeb. Ic. Fl. Alt., 60.

S. alpina var. *remotifolia*, Hook. Fl. I., 303.

North of the Saskatchewan to Bear Lake and northward to the Arctic Sea; also on the Copper Mountains, in grassy plains, Lat. 67°, and on the coast between the Mackenzie River and Coppermine. (*Richardson.*) Kotzebue Sound, and from Point Barrow to the Mackenzie River. (*Rothr. Alaska.*) Beechy Lake, Back's Great Fish River. (*Anderson.*)

326. CENTAUREA, Linn. (STAR THISTLE.)

(1268.) **C. nigra**, Linn. Knap-weed.

Naturalized in meadows and pastures eastward. Abundant in Nova Scotia, and New Brunswick and in eastern Quebec. University Park, Toronto. (*Macoun.*)

(1269.) **C. cyanus**, Linn. Bluebottle.

Escaped from gardens into fields and waste places at Belleville, Ont. (*Macoun.*) In wheat fields, Ottawa. (*Fletcher.*)

(1270.) **C. benedicta**, Linn. Blessed Thistle.

Cnicus benedictus, Linn. Gray, Manual, page 274. Macoun's Cat., No. 1059.

Bass River, N.B. Escaped from gardens. (*Fowler's Cat.*) West Point River, N.S. (*McGill Coll. Herb.*)

327. CICHORIUM, Tourn. (SUCCORY, ENDIVE.)

(1271.) **C. Intybus**, Linn. Chicory.

Old fields and roadsides, naturalized in the province of Nova Scotia, New Brunswick and especially in Quebec. Becoming frequent along railways, and in towns and villages in Ontario. Victoria, B. C. (*Fletcher.*)

328. MICROSERIS, Don.

(1272.) **M. Bigelovii**, Gray.

Depauperate specimens collected on dry gravelly soil near Victoria, Vancouver Island, are referred here. Mr. Watson, curator of Dr.

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Gray's Herbarium is doubtful of them. (*Macoun.*) Vicinity of Victoria. Vancouver Island. (*Meehan.*)

(1273.) **M. nutans**, Gray.

Wet grassy grounds, borders of British Columbia and Montana. (*Gray.*)

329. KRICIA, Schreb. (KRIGIA.)

(1274.) **K. amplexicaulis**, Nutt.

Cynthia Virginica, Don. Torr. & Gray Fl. II., 469. Macoun's Cat., No. 1075.

Hyoseris amplexicaulis, Michx. Fl. II., 87.

Damp grassy thickets around Amherstburg, Ont. (*Macoun.*) Malden, and islands in Detroit River. (*Maclean.*) Near Lake Winnipeg, (*Dr. Houghton.*)

(1275.) **K. Virginica**, Willd.

K. leptophylla, DC. Prodr. VII., 88.

Hyoseris Virginica, Linn. Michx. Fl. II., 88.

Sandy ground, western Ontario. (*Gray.*)

330. LAMPSANA, Tourn. (NIPPLE-WORT.)

(1276.) **L. communis**, Linn.

Spontaneous in a few localities but scarcely naturalized. Vicinity of Montreal. (*Maclean.*) Belœil Mountain, Q. (*McGill Coll. Herb.*) In streets and gardens, Ottawa. (*Fletcher Fl. Ott.*) Along a public road near Norwood, Peterboro' Co.; border of a spring, Royston Park, Owen Sound, Ont. (*Macoun.*) In the vicinity of Dundas, Ont., where it is a common roadside weed. (*Burgess.*) Vicinity of Port Moody, B.C. (*Hill.*)

331. CREPIS, Linn.

(1277.) **C. occidentalis**, Nutt.

Foot Hills of the Rocky Mountains, Pincher Creek; and Kootanie Valley, near Wild Horse Creek. (*Dawson.*)

Var. **Nevadensis**, Kellogg.

On dry gravelly slopes, Spence's Bridge, Thompson River, B.C. (*Macoun.*) From Jackass Mountain to Cache Creek, B.C. (*Fletcher & Hill.*)

Var. **crinita**, Gray. Bot. Calif.

Foot Hills of the Rocky Mountains on Pincher Creek, and on the slopes of Nicola Valley, B.C. (*Dawson*.)

(1278.) **C. intermedia**, Gray.

C. acuminata, var. *gracilis*, Macoun's Cat., No. 1098.

Spence's Bridge, Thompson River, B.C. (*Macoun*.) Slopes of Nicola Valley, B.C. (*Dawson*.) From Lytton to Spence's Bridge along the Thompson River, B.C. (*Fletcher*.)

(1279.) **C. glauca**, Torr. & Gray.

Borders of saline lakes and in brackish marshes from Fort Ellice westward, especially to the west of the Touchwood Hills. (*Macoun*.)

(1280.) **C. runcinata**, Torr. & Gray.

C. biennis, β . Hook. Fl. I., 297, not Linn.

Hieracium venosum, L. Dawson, Bound. Rep., 365.

Saskatchewan to the prairies of the Rocky Mountains. (*Drummond*.) Abundant from Manitoba westward to the Rocky Mountains throughout the prairie region on saline soil; also abundant around salt springs at the head of Lake Winnipegosis, on Red Deer River, Lat. 53°. (*Macoun*.) Red River prairie and Wood Mountain, 49th parallel. (*Dawson*.) Abundant on saline soil at Moose Mountain Creek. (*J. M. Macoun* C. P. R. Col.)

(1281.) **C. elegans**, Hook.

On shingle in the Bow River Pass and on gravel along the Bow River; also on gravel beaches of the Peace River, east of the mountains, Lat. 56°. (*Macoun*.) South Kootanie Pass, 49th parallel; on gravel along the Wigwam River, Rocky Mountains. (*Dawson*.) "Battures" of the Assiniboine River. (*Drummond*.) This must be a misprint for "Battures" of the Athabasca, as the former river has no "Battures" (gravel beds extending into the river) while the latter has, near Jasper House where Drummond was collecting.

(1282.) **C. nana**, Richards.

Barkhausia nana, DC. Prodr. VII., 156.

Barren grounds from Lat. 64° to the Arctic Sea and islands. (*Richardson*.) On the slaty debris of the Rocky Mountains. (*Drummond*.)

(1283.) **C. virens**, Linn.

On ballast, St. John, N.B. (*Fowler's Cat*.) Introduced.

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332. HIERACIUM, Linn. (HAWKWEED.)

- (1284.)
- H. Pilosella**
- , Linn. Mouse Ear Hawkweed.

Dry sandy soil. Introduced into meadows near London, Ont. (*Burgess*.)

- (1285.)
- H. murorum**
- , Linn.

Apparently introduced in the Province of Quebec, (*Gray*.) Within the limits of the city of Quebec. (*Fletcher*.)

- (1286.)
- H. vulgatum**
- , Fries.

H. molle, Pursh. Fl. II., 503, not Jacq.

H. sylvaticum, Schlecht. Hook. Fl. I., 299.

Labrador. (*Kolmeister*.) Frequent along river margins on Anticosti, and along the Gaspé coast from Cape Rosier to Matane; also on the heights of Point Lévis. (*Macoun*.) Point Lévis. (*Shepperd*.) It is probable that this species is common on both sides of the Lower St. Lawrence and along the shores of the gulf. It is certainly indigenous.

- (1287.)
- H. umbellatum**
- , Linn.

H. Canadense, Michx. Var. *angustifolium*, Torr. & Gray Fl. II., 476, in part.

Magdalen Islands, Gulf of St. Lawrence. (*McKay*.) Apparently extending from the Gulf of St. Lawrence to the Pacific. River margins, Anticosti, common along the Gaspé coast; from Manitoba to the Rocky Mountains and north to the Peace River, Lat. 56°. (*Macoun*.) York Factory, Hudson Bay. (*R. Bell*.) Vicinity of Dunvegan, Peace River, Lat. 56°; Kit-a-man River, Kootanie Valley, Rocky Mountains; Chilcoten River, B.C. (*Dawson*.) From the Lower Fraser to Lytton B.C. (*Fletcher*.) From Lake Huron to Fort Franklin on the Mackenzie River in Lat. 66°, abundant. (*Hooker*.) Greenland. (*Hook. Arct. Pl.*)

- (1288.)
- H. Canadense**
- , Michx.

H. prenanthoides, Hook. Fl. I., 300, not Vill.

H. virgatum, fasciculatum, and macrophyllum, Pursh. Fl. II., 504.

River banks and in thickets frequent in Ontario. Halifax, N.S. (*Sommers*.) Rather rare in New Brunswick. (*Fowler's Cat.*) Common throughout Quebec and Ontario. The limits of this and the above species are not very well defined, but it is quite evident that there are two distinct forms. The Ontario one being *H. Canadense* as generally recognized; while the other, if not, *H. umbellatum* closely approaches that species.

(1289.) **H. scabrum**, Michx.

H. Gronovii, β . Hook. Fl. I., 300.

Dry sandy or rocky ground. Apparently common in Nova Scotia, New Brunswick, Quebec and Ontario, extending to Lake Superior and Lake Nipigon.

(1290.) **H. Gronovii**, Linn.

Rare in western Ontario, on dry sandy soil. Ancaster, near Hamilton, Ont. (*Logie*.) Rare at London. (*Saunders*.) Dry sandy woods near London. (*Burgess*.) Sandwich, Ont. (*MacLagan*.) Lake Huron. (*Dr. Todd*.)

(1291.) **H. longipilum**, Torr.

Open woods. Vicinity of Hamilton, Ont. (*Logie*.) Islands in the River St. Clair near Lake Huron. (*Hooker*.)

(1292.) **H. venosum**, Linn. Rattlesnake-weed.

Dry sandy soil. Vicinity of Niagara Falls in rich sandy woods and in woods at Point Edward, near Sarnia; abundant at Point-aux-Pins, at the entrance to Lake Superior. (*Macoun*.) Niagara River and Malden, Ont. (*MacLagan*.)

(1293.) **H. paniculatum**, Linn.

Papineau wood near Montreal. (*Dr. Holmes*.) Belœil Mountain, and Lundy's Lane, near Niagara. (*MacLagan*.) Vicinity of Hamilton, Ont. (*Logie*.)

(1294.) **H. Scouleri**, Hook.

On grassy slopes, Kit-a-man River, Kootanie Valley, Rocky Mountains. (*Dawson*.) By the Skuzzie River above Yale, B.C. (*Fletcher*.) Departure Bay, Vancouver Island. (*Meehan*.)

(1295.) **H. triste**, Cham.

Aleutian Islands. (*Gray*.)

(1296.) **H. gracile**, Hook.

H. triste, in part, Torr. & Gray, Fl. II., 478. Macoun's Cat. No. 1080.

H. arcticum, Frecl. DC. Prodr. VII., 209.

On the more elevated Rocky Mountains. (*Drummond*.) South Kootanie Pass, 49th parallel; eastern summit of North Kootanie Pass; Klootch-oot-a Lake and Tsi-tse Lake, Upper Blackwater River, B. C. (*Dawson*.) Elevated country near McLeod's Lake, Lat. 55. B.C. (*Macoun*.) Oumalashka and Norton Sound. (*Rothr. Alask.*)

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Var. detonsum, Gray.Mountains of British Columbia. (*Gray.*)**(1297.) H. albiflorum, Hook.***H. Vancouverianum*, Arvet-Touvet. Spicil. Hier., 10.

Alpine woods in the Rocky Mountains, north of Smoky River, Lat. 56°. (*Drummond.*) Rocky Mountains, 6,000 feet altitude, 49th parallel; Little Shuswap Lake, B.C. (*Dawson.*) Cascade mountains along the southern boundary of British Columbia. (*Lyall.*)

333. LEONTODON, Linn. (FALL DANDELION.)**(1298.) L. autumnalis, Linn.***Apargia autumnalis*, Willd. Pursh Fl. II., 497.*Oporinia autumnalis*, Don. DC. Prodr. VII., 108.

Naturalized and becoming abundant in Newfoundland, Nova Scotia, New Brunswick and Quebec. Normal School grounds, Toronto. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

334. APARCIDIUM, Torr. & Gray.**(1299.) A. boreale, Torr. & Gray.***Leontodon boreale*, DC. Prodr. VII., 102.

Sitka. (*Rothr. Alask.*) Wet meadows and bogs, Alaskan Islands. (*Gray.*)

335. TROXIMON, Nutt. (TROXIMON.)**(1300.) T. cuspidatum, Pursh.**

Rather rare or possibly confounded with the next. From Fort Ellice westward to the Bow River. (*Macoun.*) Milk River and Fort McLeod, N.T.W. (*Dawson.*)

(1301.) T. glaucum, Nutt.

Macrorhynchus glaucus, Eaton, Bot. King Exp., 204. Macoun's Cat., No. 1100.

This species in various forms extends from Manitoba through the Rocky Mountains to the coast of the Pacific. The following attempt to limit the forms may or may not be strictly correct, but it tends to place them in groups for further study.

Var. **parviflorum**, Gray.

T. parviflorum, Nutt. Torr. & Gray Fl. II., 490.

T. glaucum, β . Hook. Fl. I., 300.

Involucre glabrous. Leaves lanceolate linear, generally entire, sometimes slightly hairy, near the base. Vicinity of Fort Ellice and west of the Touchwood Hills. (*Macoun*.) Belly River near Fort McLeod and Fossil Coulee, Milk River Ridge. (*Dawson*.) Along the Saskatchewan. (*Drummond*.)

Var. **dasycephalum**, Torr. & Gray.

T. glaucum, var. *a*. Hook. Fl. I., 300.

Ammodendron scorzoneraefolium, Schrad. DC. Prodr. VII., 98.

On dry prairies from Lat. 49° northward to the Arctic Coast. Saskatchewan and prairies of the Rocky Mountains to the Arctic Coast. (*Richardson*.) Abundant around Morley, Bow River, and eastward to the Cypress Hills. (*Macoun*.) South Kootanie Pass, and common in the mountains and Foot Hills from Lat. 49° to Bow River; also on the Chilcotin River, B.C. (*Dawson*.) West of McLeod's Lake, Lat. 55°, B.C. (*Macoun*.)

Var. **taraxacifolium**, Gray.

This variety seems to be intermediate between the other two forms, as it has lacinate leaves and a pubescent involucre. On dry gravelly soil close to Fort Ellice, Man. (*Macoun*.)

(1302.) **T. aurantiacum**, Hook.

Macrorhynchus troximoides, Torr. & Gray Fl. II., 491. *Macoun's Cat.*, No. 1102.

Alpine prairies of the Rocky Mountains. (*Drummond*.)

(1303.) **T. humile**, Gray.

Specimens approaching this species were gathered at Victoria in May, 1875, but referred to *T. heterophyllum*, Nutt. They are identical with Hall's, No. 317, from Oregon, but quite distinct from *T. Chilense* No. 143, of Suksdorf, which is now considered a synonym of the former.

(1304.) **T. laciniatum**, Gray.

Macrorhynchus laciniatus, Torr. & Gray, Fl. II., 492.

On dry gravelly soil near Victoria, Vancouver Island. (*Macoun* & *Fletcher*.) Small specimen from Vancouver Island collected by Lyall. (*Gray*.)

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(1305.) **T. grandiflorum**, Gray.

Macrorhynchus grandiflorus, Torr. & Gray Fl. II., 492. Macoun's Cat., No. 1103.

Along the Thompson River near Spence's Bridge, B.C. (*Fletcher.*)

(1306.) **T. heterophyllum**, Greene.

Macrorhynchus heterophyllus, Torr. & Gray Fl. II., 493. Macoun's Cat., No. 1101.

Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(1307.) **T. gracilens**, Gray.

South Kootanie Pass, 49th parallel; Foot Hills between the Forks of the Old Man River, Iroquois Creek, Pine Pass, Lat. 55°; Flat Head River; Tsi-tsult Mountains, B.C. (*Dawson.*) Dry places on the Fraser above Boston Bar, B.C. (*Fletcher.*) Cascade mountains, Lat. 49°. (*Lyall.*)

336. TARAXACUM, Hall. (DANDELION.)(1308.) **T. officinale**, Weber.

T. Dens-leonis, Desf. Torr. & Gray Fl. II., 494. Macoun's Cat., No. 1090. *Leontodon Taraxacum*, Hook. Fl. I., 296.

Completely naturalized throughout Canada, and found wherever settlers have penetrated. The indigenous forms are arranged and characterized by Dr. Gray as below.

Var. **alpinum**, Koch.

Taraxacum latilobum, DC. Prodr. VII., 494 (?)

Outer involueral bracts ovate to broadly lanceolate, spreading, none conspicuously corniculate. Not uncommon along the Labrador coast, flowers usually very large. (*W. A. Stearns.*) Common in grassy places on Anticosti, and on the top of Mount Albert, Shickshock Mountains, Gaspé. In cool copses near Fort Ellice, Man., and north-westward in the wooded country to and beyond the Rocky Mountains. (*Macoun.*) Labrador to British Columbia. (*Gray.*)

Var. **glaucescens**, Koch.

Taraxacum ceratophorum, DC. Torr. & Gray, Fl. II., 495.

Outer involueral bracts lanceolate to linear, loosely erect or spreading, inner ones and sometimes outer with a corniculate appendage below the tip. Ounalashka and Norton Sound. (*Rothr. Alask.*) Greenland.

(*Hook. Arct. Pl.*) Specimens from the Rocky Mountains and British Columbia seem to belong here, as they have the corniculate appendage below the tip and glaucescent leaves. South Kootanie Pass, 49th parallel. (*Dawson.*) Crossing of the Blackwater River, Northern British Columbia. (*Macoun.*)

Var. *lividum*, Koch.

Taraxacum palustre, DC. Macoun's Cat., No. 1091.

Leontodon palustre, Smith. Hook. Fl. I., 296.

Outer involueral bracts ovate to ovate-lanceolate, all apt to be dark-colored in drying, obscurely or not at all corniculate. Western summit of the North Kootanie Pass, Lat. 49° 30'. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Departure Bay, Vancouver Island. (*Meehan.*) Arctic Coast and islands, and the Aleutian Islands, in various forms. (*Gray.*) Westernholme and below Bedevilled Beach, Lat. 76-78°. (*Dr. Kane.*) On both sides of Baffin's Bay and Davis Strait, and on Melville Island. (*Capt. Markham.*)

337. LACTUCA, Linn. (LETTUCE.)

(1309.) ***L. Canadensis*, Linn.** Wild Lettuce.

L. elongata, Muhl. Hook. Fl. I., 296.

L. longifolia, Michx. Fl. II., 85.

Rich soil in damp thickets. Quite common from Anticosti to thickets in the western prairie region.

(1310.) ***L. integrifolia*, Bigel.**

L. elongata, var. *integrifolia*, Torr. & Gray Fl. II., 496.

Leaves glabrous all undivided generally entire. Norton, N.B. (*Hay.*) Dry sterile soil at Kingston, N.S.; in the vicinity of Belleville; also on hill sides, North Hastings, Ont. (*Macoun.*) On dry soil, vicinity of Ottawa, Ont. (*Fletcher.*) Neighborhood of London, Ont. (*Burgess.*)

(1311.) ***L. hirsuta*, Muhl.**

L. elongata, var. *sanguinea*, Torr. & Gray Fl. II., 496.

Leaves often ciliate on the margin and always hirsute on the midrib below. Dry sandy woods east of Belleville, Ont., and abundant on sterile soil, Rice Lake Plains. (*Macoun.*) Sandy fields, London, Ont. (*Burgess.*) Vicinity of Ottawa, Ont. (*Fletcher Fl. Ott.*)

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(1312.) **L. pulchella**, DC.

Mulgedium pulchellum, Nutt. Torr. & Gray Fl. II., 497. Macoun's Cat., No. 1104.

M. acuminatum, DC. Dawson Bound. Commissioner's Report, page 365.

Sonchus pulchellus, Pursh. Fl. II., 502.

S. Sibiricus, Hook. Fl. I., 293.

From Lake Huron. (*Dr. Todd*.) Throughout the whole central part of British North America to Fort Franklin in Lat. 66°. (*Richardson & Drummond*.) From the Lake of the Woods westwards to the Rocky Mountains and northwards to Peace River and Lake Athabasca. (*Macoun*.) From Turtle Mountain, 49th parallel, to the valleys of the Rocky Mountains, and interior of British Columbia. (*Dawson*.) From Spence's Bridge on the Thompson River to C  che Creek, B. C. (*Fletcher & Hill*.) Point Barrow to Mackenzie River. (*Rothr. Alask*.)

(1313.) **L. Floridana**, Gertn.

Mulgedium Floridanum, DC. Torr. & Gray Fl. II., 498.

Sonchus Floridanus, Linn. Pursh. Fl. II., 501.

Islands in Detroit River. (*MacLagan*.)

(1314.) **L. leucoph  a**, Gray.

Mulgedium leucophacum, DC. Torr. & Gray Fl. II., 499. Macoun's Cat., No. 1105.

Low, rich soil generally beside small brooks. Newfoundland. (*Torr. & Gray*.) Frequent on southern part of Anticosti and Gasp   coast. (*Macoun*.) Pictou, N.S. (*McKay*.) Low, wet grounds rather common, N.B. (*Fowler's Cat*.) Knowlton, Eastern Townships, Q. (*McGill Coll. Herb*.) Common about clearings and open places, River Rouge, Q. (*D'Urban*.) Mount Johnstone, near Lachine, Q. (*MacLagan*.) Frequent in central Ontario; north shore of Lake Superior, and in damp thickets from the Lake of the Woods westward to British Columbia. (*Macoun*.) Easily distinguished from *L. Canadensis* by its sordid pappus.

(1315.) **L. sativa**, Linn. Garden Lettuce.

Frequent on waste heaps and in corners of gardens, but never remaining more than a year or two. Apparently naturalized at Hamilton, Ont. (*Buchan*.)

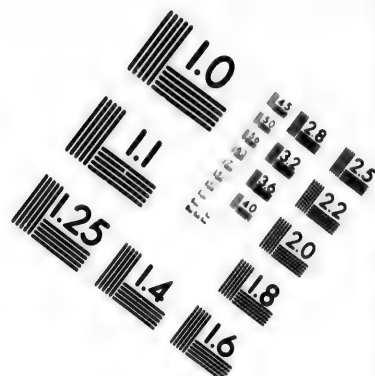
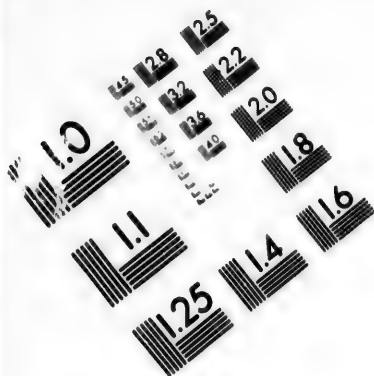
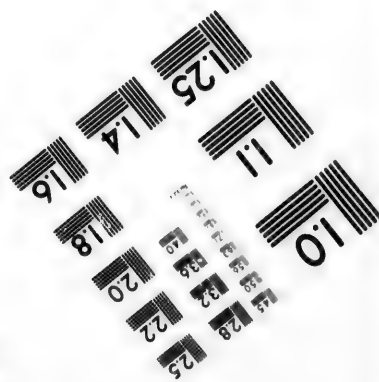
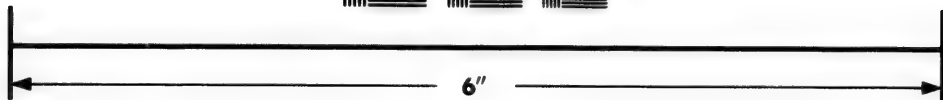
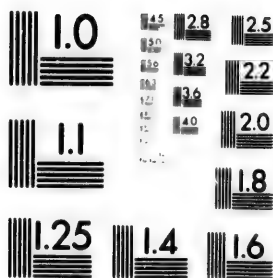


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338. PRENANTHES, Linn. (RATTLESNAKE-ROOT.)

(1316.) **P. alba**, Linn. White Lettuce.

P. rubicunda, Pursh. Fl. II., 449.

Nabalus albus, Torr. & Gray Fl. II., 480. Macoun's Cat., No. 1085.

Open grounds and borders of woods. Newfoundland. (*Cormack*.) Apparently common throughout the country from the Atlantic provinces and Anticosti to the woods along the Saskatchewan. It is probable that many of the eastern stations refer to the next species as all our Gulf specimens certainly do.

(1317.) **P. serpentaria**, Pursh. Fl. II., 499. Rattlesnake Root.

Nabalus albus, var. *serpentaria*, Torr. & Gray Fl. II., 480.

N. Fraseri, DC. Torr. & Gray Fl. II., 481,

Newfoundland. (*Cormack*.) Shore of Anticosti, at Salt Lake, and south westerly to West Point; also on the cliffs along the Gaspé coast at Rivière Pierce. (*Macoun*.) Vicinity of Quebec and at Sillery, Q. (*Shepperd*.) Lake Huron. (*Dr. Todd*.) Vicinity of London, Ont. (*Burgess*.) All the stem leaves are petioled in this species.

Var. **nana**, Gray.

Nabalus nanus, DC. Torr. & Gray Fl. II., 482.

On exposed rocky points and mountain tops. Close to the sea at the "Bake Apple Bog," Sydney Mines, Cape Breton; on exposed peaty soil at South-West Point Lighthouse, Anticosti; also on the summit of Mount Albert, one of the Shickshock Mountains, Gaspé. (*Macoun*.) Magdalen Islands, Gulf of St. Lawrence. (*McKay*.)

(1318.) **P. altissima**, Linn. Tall White Lettuce.

Nabalus altissimus, Hook. Fl. I., 294. Macoun's Cat., No. 1087.

Newfoundland. (*Cormack*.) This species seems to have nearly the same range as *P. alba*, but prefers a drier habitat and becomes more plentiful in western Ontario.

(1319.) **P. racemosa**, Michx. Fl. II., 84.

Nabalus racemosus, Hook. Fl. I., 294. Macoun's Cat., No. 1086.

Common on Anticosti and at Sydney mines, Cape Breton; also at the mouth of the Restigouche, opposite Campbellton, N.B. (*Macoun*.) Campbellton, N.B. (*Chalmers*.) At the mouth of the Kennebecasis, in crevices of rocks, N.B. (*Fowler's Cat.*) Montreal and St. John's, Q. (*MacLagan*.) St. Helen's Island, Montreal. (*McGill Coll. Herb.*)

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Malden, Ont. (*MacLagan*.) Shores of Lake Huron along the Bruce Peninsula, north shore of Lake Superior and westward on damp prairie and in thickets to Edmonton on the Saskatchewan. (*Macoun*.) Turtle Mountain, 49th parallel. (*Dawson*.)

(1320.) ***P. alata***, Gray.

Nabalus alatus, Hook. Fl. I., 294.

N. Bootii, DC. Var. Dawson's Boundary Commission Report, p. 365.

Observatory Inlet and northwest coast. (*Scouler*.) Queen Charlotte Islands. (*Dawson*.) Ounalashka and Sitka. (*Rothr. Alask.*) Fort Wrangel, and Sitka. (*Meehan*.)

Var. ***sagittata***, Gray.

South Fork of Belly River, growing in thickets; also, South Kootanie Pass, 49th parallel. (*Dawson*.)

339. **SONCHUS**, Linn. (SOW-THISTLE.)

(1321.) ***S. oleraceus***, Linn. Common Sow-thistle.

S. ciliatus, Lam. DC. Prodr. VII, 185.

Waste places around dwellings and in gardens. Naturalized from Newfoundland to Manitoba and British Columbia. Departure Bay, Vancouver Island. (*Meehan*.)

(1322.) ***S. asper***, Vill. Spiny Sow-thistle.

S. fallax, Wallroth. DC. Prodr. VII, 185.

Commoner than the last and found in company with it, but more frequently in cultivated fields.

(1323.) ***S. arvensis***, Linn.

Abundant along roadsides and in fields from Newfoundland throughout the Maritime provinces and Quebec. Parliament Hill and other places around Ottawa. (*Fletcher Fl. Ott.*) Grounds of the Insane Asylum, London, Ont. (*Burgess*.) Vicinity of Hamilton, Ont. (*Buchan*.)

340. **LYCODESMIA**, Don.

(1324.) ***L. juncea***, Don. Hook. Fl. I., 295.

Prenanthes juncea, Pursh. Fl. II., 498.

Dry plains of the Saskatchewan. (*Drummond*.) Dry, sandy or

gravelly hills from Pine Creek, Man., to Calgary. (*Macoun.*) Very common on dry soil, Souris Plain. (*J. M. Macoun, C. P. R. Coll.*) Abundant from a little east of Turtle Mountain to the Foot Hills of the Rocky Mountains, 49th parallel. (*Dawson.*)

(1325.) **L. rostrata**, Nutt.

Growing in damp sand amongst the sand hills, five miles north of "Big Stick Lake," north of Cypress Hills, close to a grove of *Populus monilifera*. August 28th, 1880. (*Macoun.*)

341. TRACOPOCON, Linn. (GOAT'S BEARD, SALSIFY.)

(1326.) **T. pratensis**, Linn. Yellow Goat's Beard.

A weed in Todd's field, St. Stephen, N.B. (*Vroom.*) In the churchyard of the Prince's Street Church, Pictou, N.S. Growing luxuriantly and completely naturalized. (*McKay.*) Along the railway track near the St. Louis dam, Ottawa. (*Fletcher Fl. Ott.*)

(1327.) **T. porrifolius**, Linn. Salsify.

In the streets and waste places around Ottawa. (*Fletcher Fl. Ott.*) Common on waste heaps and around market gardens, Belleville, Ont. (*Macoun.*) Vicinity of London, Ont., along the railway tracks. (*Burgess.*) Vicinity of Strathroy, Ont. (*McGill Coll. Herb.*)

342. STEPHANOMERIA, Nutt.

(1328.) **S. minor**, Nutt.

Lygodesmia minor, Hook. Fl. I., 205.

South of Wood Mountain, on a dry clay bank, 49th parallel. (*Dawson.*) In the dry interior of British Columbia along the Thompson River. (*Fletcher.*)

343. HYPOCHÆRIS, Linn. (CAT'S EAR.)

(1329.) **H. radicata**, Linn. Long-rooted Cat's Ear.

Naturalized in the streets and vicinity of Victoria, Vancouver Island. (*Fletcher.*) It is probable that *H. glabra* is mixed with this species, as small specimens seem to be of that species.

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Un-named Species of Compositæ.

(1330.) A poor specimen of what may be *Echinacea purpurea* was gathered on the shore of Lake Huron in July, 1871. Since then nothing like it has been seen. As the specimens are without rays and very immature, nothing certain can be predicated of them.

(1331.) In August, 1883, Mr. James Fletcher picked up in the neighborhood of Victoria, a small rayless composite, which at first sight might be referred to *Matricaria discoidea*, but which differs very materially from that species in many respects. It is evidently a denizen of ditches and muddy places, but the specimens are too few and incomplete to enable one to make a proper examination for their identification. Lower leaves laciniate, upper ones much less so. The whole plant quite smooth and branching at almost every leaf which sheaths both stem and branch.

LIII. LOBELIACEÆ. LOBELIA FAMILY.

344. LOBELIA, Linn. (LOBELIA.)

(1332.) **L. cardinalis**, Linn. Cardinal Flower.

Low swamps or marshy meadows and along streams. Low grounds near St. Andrews, N.S. (*Vroom.*) On Magaguadavic, Saint Croix, and tributaries, N.B. (*Matthew & Vroom.*) From Quebec westward to Owen Sound and north westward along the Georgian Bay. (*Macoun.*)

(1333.) **L. syphilitica**, Linn. Great Blue Lobelia.

Low, wet meadows and borders of marshes. Rather local in Ontario but frequent along the St. Lawrence and great lakes from Prescott to Owen Sound, and northward in the limestone districts. (*Macoun.*)

(1334.) **L. Dortmanna**, Linn. Water Lobelia.

A very remarkable species growing either in water or on the borders of ponds and lakes. In a small lake at North Sydney, Cape Breton. (*Macoun.*) Mahone Bay, Lunenburg Co., N.S. (*Ball.*) Vicinity of Halifax, N.S. (*Lawson.*) Shallow borders of ponds and lakes, rather rare, N.B. (*Fowler's Cat.*) Near Lake Mistassini. (*J. Richardson.*) Very abundant in Twelve Mile Lake and the Bushkong Lakes, Victoria Co., Ont. (*Macoun.*) Lake Joseph, Muskoka. (*Burgess.*) Vermilion Bay, C. P. R., with *Subularia aquatica*. (*Fletcher.*) Slave Lake, English River, and Portage la Loche, Lat. 57°. (*Richardson.*)

aquatic.

(1335.) **L. spicata**, Lam.*L. Claytoniana*, Michx. Hook. Fl. II., 30.

In meadows and pastures rather rare. In meadows on both sides of the Bay of Quinte at Belleville, Ont. (*Macoun*.) Prince's Island, near Hamilton, Ont. (*Logie*.) Islands in Detroit River. (*MacLagan*.) Great Western Railway Track east of London, Ont. (*Saunders*.) Red Bay, Lake Huron. (*Macoun*.) Strathroy. (*McGill Coll. Herb.*) Vicinity of Toronto. (*Fowler*.)

Var. **hirtella**, Gray.*L. Claytoniana*, Michx. Hook. Fl. II., 30, in part.

On the Saskatchewan, apparently rare. (*Drummond*.) On the prairie west of the Touchwood Hills and along the base of the Brandon Hills, Man. (*Macoun*.) Abundant on the Souris Plain, on the borders of marshes. (*J. M. Macoun, C. P. R. Coll.*) Turtle Mountain, Man. 49th parallel. (*Dawson*.)

(1336.) **L. Kalmii**, Linn. Kalm's Lobelia.*L. Nuttallii* of Saunders's London List.*L. puberula* of Logie's Hamilton List.

Wet, rocky banks on the margins of rivers and in marshes from Anticosti, Nova Scotia and New Brunswick throughout Quebec and Ontario and westward to the Upper Columbia Valley. (*Macoun*.) From Lake Huron, throughout Canada to the Saskatchewan and Hudson Bay, and in saline marshes in Lat. 60° (*Richardson*.) Frequent in the prairie region on saline marshy soil. (*J. M. Macoun, C. P. R. Coll.*)

(1337.) **L. inflata**, Linn. Indian Tobacco.

On dry, sandy soil in meadows, pastures, and by roadsides. Frequent throughout Canada from the Atlantic to Lake Huron. (*Macoun*.) Lake Huron to the Saskatchewan and Hudson Bay. (*Richardson*.)

LIV. CAMPANULACEÆ. CAMPANULA FAMILY.

345. SPECULARIA, Helster.(1338.) **S. perfoliata**, A. DC. Venus' Looking-glass.*Campanula perfoliata*, Linn. Pursh. Fl. I., 160.*C. amplexicaulis*, Michx. Fl. I., 108.

Open gravelly or sandy soil and barren spots. On Taylor's Hill, Belleville, and in Prince Edward Co., at Ferry Point and Gibson's

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Mountain, Ameliasburgh. (*Macoun.*) Fields in the vicinity of Hamilton, Ont. (*Logie.*) Drummondville, Ont. (*MacLagan.*) Niagara Falls. (*Burgess.*) Point Albino and Port Colborne, Lake Erie. (*David F. Day.*) North-west coast of America. (*Scouler.*) Sea Bird Bluffs, near Port Moody, B.C. (*Fletcher.*)

346. CAMPANULA, Linn. (BELL-FLOWER.)

(1339.) **C. pilosa**, Pall.

C. dasyantha, Bieb. Hook. Fl. II., 27.

Ounalashka and islands of Behring's Straits. (*Chamisso.*) Cape Prince of Wales and Ounalashka. (*Rothr. Alask.*) Alaska, Aleutian islands and northward. (*Gray.*)

(1340.) **C. lasiocarpa**, Cham.

Summit of northern Rocky Mountains, near Lake La Pierre. (*Drummond.*) Eliguch Lake, northern British Columbia. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Sledge and Hedge islands in Behring's Straits. (*Capt. Beechy.*) Kotzebue Sound and Ounalashka. (*Rothr. Alask.*)

(1341.) **C. uniflora**, Linn.

Shores and islands of the Arctic Sea from the eastern to the western extremity. (*Hooker.*) Alpine places in the Rocky Mountains. (*Drummond.*) Arctic regions from Labrador to the Aleutian islands. (*Gray.*) Kotzebue Sound, Cape Lisburne, and Ounalashka. (*Rothr. Alask.*) Cape Beaufort, Arctic Coast. (*Dr. Rae.*) On both sides of Baffin's Bay and Davis' Straits. (*Capt. Markham.*) Uppernavik. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

(1342.) **C. rapunculoides**, Linn.

Roadsides and waste places near dwellings. Naturalized and spreading. About St. John and St. Stephen, N.B. (*Hay & Vroom.*) Rather common around fences of old gardens at Truro, N.S., and in the vicinity of Belleville, Ont. (*Macoun.*) Waste ground, Ottawa. (*Fletcher.*)

(1343.) **C. Scheuchzeri**, Vill.

C. dubia, A. DC. Hook. Fl. II., 27.

C. linifolia, A. DC. Hook. Fl. II., 27.

C. rotundifolia, β . *linifolia*, Rich. in Frankl. Journ., page 6.

Alpine and sub-alpine or sub-arctic, Newfoundland, Labrador and Alaska. (*Gray.*) On rocks and peat bogs along the shores of Anti-

costi; also on the top of Mount Albert, Gaspé. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) From Lake Huron throughout the wooded country to Lat. 64°. (*Richardson.*) Quite common in the whole prairie region extending from Manitoba to the Rocky Mountains. (*Macoun.*) Port Wentworth and Sledge Island. Behring's Straits. (*Menzies.*) Holsteinburg, Lat. 68°. (*Dr. Kane.*)

Var. **heterodoxa**, Gray.

C. linifolia var. *Langsdorffiana*, A. DC. Hook. Fl. II., 27.

C. pratensis, A. DC. Hook. Fl. II., 27.

Near the coast on the western side of Newfoundland. (*Pylaie.*) Arctic America from Greenland to the Aleutian islands. (*A. De Candolle.*) Queen Charlotte Islands. (*Dawson.*) Alaska and islands to the Shumegins. (*Gray.*) Sitka. (*Rothr. Alask.*) On both sides of Baffin's Bay and Davis' Straits. (*Capt. Markham.*)

(1344.) **C. rotundifolia**, Linn. Blue Bell, Hare Bell.

C. petiolata, A. DC. Hook. Fl. 27. (?)

Growing at Middle Bay, Belles Amour, and L'Anse Amour, Labrador. I have never heard of it being found on any of the islands. (*Butler.*) I have found it all along the shore at Forteau; it appears quite common there. (*W. A. Stearns.*) On rocky banks of rivers and sandy places from the Atlantic throughout the wooded country to and within the Rocky Mountains in Peace River Pass, Lat. 56°. (*Macoun.*) Throughout the wooded country to Lat. 64°. (*Richardson.*) Kootanie Valley within the Rocky Mountains. (*Dawson.*) Mountains in the Kicking Horse Pass. (*Macoun.*) Chilcat, Alaska. (*Meehan.*) Greenland. (*Hook. Arct. Pl.*)

(1345.) **C. aparinoides**, Pursh. Marsh Bell-flower.

In marshes and beaver meadows. Dennis Stream, near St. Stephen and St. George, N.B. (*Vroom.*) Grand Lake, N.B. (*Hay.*) Abundant throughout Quebec and Ontario, and extending to the Lake of the Woods. (*Macoun.*) From Lake Huron to the Saskatchewan. (*Drummond.*)

(1346.) **C. Scouleri**, Hook. Fl. II., 28.

Open grassy, woods and under firs. Vicinity of Victoria, Vancouver Island. (*Dawson.*) Departure Bay, Vancouver Island. (*Meehan.*) Grassy places vicinity of Victoria, Vancouver Island. Yale and Spuzzum, and above the Fraser River Crossing of C.P.R., B.C. (*Fletcher.*)

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(1347.) **C. Americana**, Linn.*C. acuminata*, Michx. Fl. I., 108.

On moist and broken rock between the Clifton House and the water, Niagara Falls. (*Macoun.*) St. Catharines and Malden, N.B. (*MacLagan.*) Woods near Cline's Mills, west of Hamilton, Ont. (*Logie.*) Rich woods, near London. (*Saunders & Burgess.*) Vicinity of Toronto. (*Fowler.*) Sandy ridge, Pelee Point, Ont. (*J. M. Macoun.*)

Note.

I confess that I am unable to limit *C. rotundifolia* and *C. Scheuchzeri*, as they are described in Dr. Gray's Synopsis of the Gamopetalæ. We have evidently two forms which are both referred to *C. rotundifolia*. My impression is that the true *C. rotundifolia* grows chiefly on river banks, while the other which I may call the boreal form is found on exposed shores, prairies and mountain tops. The form with linear or narrowly lanceolate entire cauline leaves I refer to *C. rotundifolia*, while the other with the stem-leaves more or less toothed much broader and the lower leaves never linear, I include, in *C. Scheuchzeri*.

347. HETEROCODON, Nutt.(1348.) **H. rariflorum**, Nutt.

Shady and grassy places vicinity of Victoria, Vancouver Island. (*Cowley & Gray.*)

LV. VACCINIACEÆ. HUCKLEBERRY FAMILY.

348. CAYLUSSACIA, HBK. (HUCKLEBERRY.)(1349.) **C. dumosa**, Torr. & Gray.*Vaccinium dumosum*, Dunal. DC. Prodr. VII., 566.

Newfoundland (*Gray.*) Sandy swamp, near North Sydney and at Sydney mines, Cape Breton. (*Macoun.*) North West Arm, near Halifax, N.S. (*Sommers.*) Peat bog near Pictou, N.S. (*McKay.*) In a peat bog near Richibucto, N.B. (*Fowler's Cat.*) St. Stephen, N.B. (*Vroom.*)

(1350.) **C. resinosa**, Torr. & Gray.*Vaccinium resinosum*, Ait. Hook. Fl. II., 31.

Rocky or sandy woodlands or swamps, Newfoundland. Abundant in Nova Scotia, amongst rocks; on sandy barrens in New Brunswick, and frequent in bogs or on sand or rock in Quebec and Ontario. Lake Huron to the Saskatchewan. (*Drummond.*)

349. VACCINIUM, Linn. (BLUEBERRY OR CRANBERRY.)

(1351.) **V. stamineum**, Linn. Deerberry.

V. album, Pursh. Fl. I., 26, not of Linn.

Dry rocks, Thousand Islands in the St. Lawrence. (*Macoun.*)
Whirlpool, below Niagara Falls. (*MacLagan.*)

(1352.) **V. Pennsylvanicum**, Lam. Early-fruited Blueberry.

V. tenellum, Pursh. Fl. I., 288.

Dry hills and woods and sandy swamps from Newfoundland to the Rocky Mountains. Fruit abundant and valuable.

Var. angustifolium, Gray.

Labrador and Hudson Bay, also Newfoundland. (*Gray.*) Peat bogs, Salt Lake, Anticosti; top of Mount Albert, Shickshock Mountains, Gaspé; north-east coast of Lake Superior, above Michipicotin. (*Macoun.*) Shores of Lake St. John, Q. (*J. Richardson.*) Specimens from Mount Albert are very hairy on the midrib and ciliate on the margins.

(1353.) **V. Canadense**, Kalm. Canada Blueberry.

Very common in swamps and on sandy barrens, especially in the pineries throughout Canada from the Atlantic to the Rocky Mountains and northward to Hudson Bay and Bear Lake. This is our commonest species and has become quite a valuable fruit since the building of railways into the forest regions of Quebec and Ontario.

(1354.) **V. vacillans**, Solander. Low Blueberry.

Dry sandy woodlands and banks in western Ontario. Near Grenadier Pond, Toronto, and along the railway at Port Dover Junction, Ont. (*Macoun.*) Near the Waterdown Road, Hamilton, Ont. (*Logie.*) Vicinity of Toronto and London. (*Burgess.*)

(1355.) **V. corymbosum**, Linn. Swamp Blueberry.

V. dimorphum, Michx. Fl. I., 231.

Swamps and low woods from Newfoundland to western Ontario. (*Gray.*) About Quebec. (*Cleghorn.*) Lake Huron. (*Dr. Todd.*) Reported from many points, but varieties not specified.

Var. amoenum, Gray.

Rich, wet woods at Bismarek on the Canada Southern Railway, west of St. Thomas, Ont. (*Macoun.*) Vicinity of London. (*Burgess.*) Probably the western or southern form.

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Var. **atrococcum**, Gray.*V. fuscatum*, Gray, Manual Ed. I., 262.

Apparently the Quebec and eastern and northern Ontario form. Peat bogs and Mèr Bleue near Ottawa. (*Fletcher Fl. Ott.*) Peat bog five miles north of Colborne, Northumberland Co., Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*)

Var. **pallidum**, Gray.*V. pallidum*, Gray, Man. Ed. I., 262.*V. vacillans*, Sommers' Flora of Nova Scotia, page 200, 1876.

Grassy and rocky ground not rare. Point Pleasant, near Halifax, N.S. (*Macoun.*) Halifax, N.S. (*Lawson.*)

(1356.) **V. uliginosum**, Linn. Bog Blueberry.

In mountain bogs and exposed shores below, Lat. 50°. From Newfoundland, Labrador, Anticosti, Skickshock Mountains and thence westward to the Pacific and northward to the Arctic Sea. Quebec; Gomin swamps, near Rivière-du-Loup, Q. (*Thomas.*) On exposed rocks north-east coast of Lake Superior, above Michipicotin, and in a peat bog near Port Arthur, also at McIntyre's Bay, Lake Nipigon. (*Macoun.*) North-east coast of Hudson Bay. (*R. Bell.*) Sitka, Ounashka, Kotzebue Sound, and the northern coast. (*Rothr. Alask.*) Bartlett's Bay, Alaska. (*Meehan.*) Northumberland Strait north of Hudson Bay. (*Capt. Markham.*) Back's Great Fish River. (*Capt. Back.*) Greenland. (*Hook. Arct. Pl.*) Fiske Fiord, Disco, Proven, Uppernavik, and Smith's Sound, Lat. 78°. (*Dr. Kane.*)

Var. **mucronatum**, Herder.Alaska and Aleutian Islands to Behring's Straits. (*Gray.*)(1357.) **V. salicinum**, Cham.Ounalashka, in moss. (*Chamisso.*)(1358.) **V. caespitosum**, Michx. Dwarf Bilberry.

A dwarf shrub growing on grassy and exposed ridges or mountains, abundant on the elevated plains west of Edmonton and through the Rocky Mountains into northern British Columbia. On hillsides, Labrador. (*Butler.*) Anticosti, at the mouth of Jupiter River; on Mount Albert, Gaspé; on rocks above the falls of Montreal River, north-east coast of Lake Superior; Cypress Hills and Bow River Pass and northward along the Foothills to Little Slave Lake and westward to MacLeod's Lake, B.C. (*Macoun.*) Dean or Salmon River, B.C. (*Dawson.*) Sitka. (*Rothr. Alask.*)

Var. *cunelfolium*, Nutt.

V. caespitosa, var. *angustifolium*, Gray.

British Columbia and east to Lake Superior. (Gray.) Thickets and grassy places near Victoria, Vancouver Island. (Macoun & Fletcher.)

(1359.) *V. Myrtilus*, Linn. Whortleberry, Bilberry.

V. myrtilloides, Watson, Bot. King, Exp., 209.

Rocky Mountains and north-west to Alaska. (Gray.) Sitka. (Rothr. Alask.)

Var. *microphyllum*, Hook.

Very abundant in the woods along Kicking Horse River, B.C. (Macoun.) Alpine woods near the Height of Land and Columbia Portages. (Drummond.) Western summit of North Kootanie Pass. Is-gu-chuz Range, head waters of Black River. Altitude, 5,000 feet. (Dawson.)

(1360.) *V. myrtilloides*, Gray. Var. *membranaceum*, Dougl.

V. myrtilloides, Hook. Fl. II., 32, in part only. The eastern references apply to a form of *V. Pennsylvanicum*.

Damp woods, Lake Superior to British Columbia. (Gray.) South Kootanie Pass, 49th parallel; Flat Head River, B.C.; eastern summit of the North Kootanie Pass. Iltasyouco River and Cascade Mountains, B.C. (Dawson.) Vicinity of Yale and on high rocky hills along the Telegraph Trail, and on Stuart Lake Mountain and Mount Selwyn, Peace River Pass. (Macoun.) Cariboo Mountains, B.C. (Cowley.) Sitka. (Rothr. Alask.)

Var. *rigidum*, Hook. Fl. II., 32.

This form has rigid not membranaceous leaves, has a more compact habit and has not glabrous, but slightly pubescent branchlets. South Kootanie Pass on the British Columbia side of the summit. (Dawson.) On the top of House Mountain south of Little Slave Lake, and in alpine woods, Kicking Horse Pass. (Macoun.)

(1361.) *V. ovalifolium*, Smith.

V. Chamissonis, Bong. Rothr. Alask., 450.

In some abundance on the top of Mount Albert at an altitude of nearly 4,000 feet, Gaspé, Q. (Macoun.) Has been found on the south shore of Lake Superior. (Robbins.) North-west coast of America.

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(*Menzies.*) Woods at the junction of the Portage River with the Columbia (*Douglas.*) Sitka. (*Rothr. Alask.*) Ounalashka. (*Gray.*) Fort Wrangel, Alaska. (*Meehan.*)

(1362.) **V. parvifolium**, Smith.

Shady and low woods near the coast of British Columbia to Alaska and the Aleutian Islands. (*Gray.*) Great Shuswap Lake, B.C. (*Dawson.*) In thickets at New Westminster, on the Lower Fraser, B.C. (*Macoun.*) At and near Spuzzum, above Yale, B. C. (*Fletcher.*) Lake Lindeman, source of the Youcon River, B. C., Lat. 60°. (*Schwatka.*)

(1363.) **V. ovatum**, Pursh.

In rocky places on the North-west coast, Lat. 49°. (*Scouler.*) Vancouver Island. (*Gray.*) Vancouver Island or southern British Columbia. (*Cowley.*)

(1364.) **V. Vitis-Idæa**, Linn. Cowberry. Mountain Cranberry.

Very abundant from the Atlantic to the Pacific, producing enormous quantities of fruit, which are invaluable as a spring food for birds on their return from the south. The only parts of Canada where it is not found are southern Ontario and the prairie region. It extends north to Greenland and the islands in the Arctic Sea. Greenland. (*Hook. Arct. Pl.*)

350. OXYCOCCUS, Pers. (LOW BUSH CRANBERRY.)

(1365.) **O. vulgaris**, Pursh. Small Cranberry.

Vaccinium Oxycoccus, Linn. Macoun's Cat., No. 1132.

Sphagnous swamps around the sub-arctic zone, from Newfoundland to the Pacific and south to the Canadian boundary. This species is easily distinguished from the next by its small revolute leaves and terminal fascicle of flowers. Greenland. (*Hook. Arct. Pl.*)

(1366.) **O. macrocarpus**, Pursh. Large American Cranberry.

Vaccinium macrocarpon, Ait. Macoun's Cat., No. 1139.

Bogs and especially on the margins of ponds and small lakelets, in the soft mud. Newfoundland, Anticosti, Nova Scotia and New Brunswick, thence westward throughout Quebec and Ontario to Thunder Bay. (*Macoun.*) Throughout Canada to the Saskatchewan. (*Richardson.*) Ungava Bay and Mackenzie River. (*McGill Coll. Herb.*)

351. CHIOGENES, Salisb. (CREEPING SNOWBERRY.)(1367.) **C. hispidula**, Torr. & Gray.*Vaccinium hispidulum*, Michx. Fl. I., 228.*Gaultheria serpyllifolia*, Pursh. Fl. I., 283.*G. hispidula*, Muhl. Hook. Fl. II., 36.

Abundant in damp, mossy woods creeping over logs, flowering very early. Labrador, Newfoundland, Anticosti, Nova Scotia and New Brunswick, thence westward to the west side of the Rocky Mountains at the sources of the Columbia. (*Drummond.*)

LVI. ERICACEÆ. HEATH FAMILY.

352. ARBUTUS, Linn.(1368.) **A. Menziesii**, Pursh. Madroña.

A tall and beautiful tree with evergreen leaves and by exfoliation a reddish bark. Coasts of Vancouver Island and British Columbia. Puget's Sound and North-west Coast. (*Menzies.*) Coasts around Victoria. (*Dawson.*) Departure Bay, Vancouver Island. (*Meehan.*) Skagit River, B.C. (*Dawson.*) Vicinity of Victoria. (*J. Richardson.*)

353. ARCTOSTAPHYLOS, Adns. (BEARBERRY.)(1369.) **A. alpina**, Spreng. Alpine Bearberry.*Arbutus alpina*, Linn. Hook. Fl. II., 37.

Newfoundland. (*Cormack.*) Labrador. (*McGill Coll. Herb.*) South-west Point, and mouth of Jupiter River, Anticosti; Summit of Mount Albert, 4,000 feet altitude, Gaspé, Q.; Bow River Pass and Kicking Horse Pass, Rocky Mountains. (*Macoun.*) Throughout the wooded country Lat. 54°-64°. (*Richardson.*) Alpine swamps of the Rocky Mountains. (*Drummond.*) Ounalashka, Norton Sound to Point Barrow; also on the Arctic Coast. (*Rothr. Alask.*) Northumberland Strait. (*Capt. Markham.*) Greenland. (*Hook. Arct. Pl.*) Back's Great Fish River. (*Capt. Back.*) West of Mackenzie River. (*Pease.*) Both Hooker and Gray state that the berries of this species are black, on the contrary, those on specimens obtained on Anticosti and the Rocky Mountains are bright red.

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- (1370.) **A. Uva-ursi**, Spreng. Bearberry, Kinnikinick.

Arbutus Uva-ursi, Linn. Hook. Fl. II., 37.

Rocky or sandy soil from Newfoundland to the Pacific and north to Fort Franklin, Lat. 64°. (*Richardson*.) This species is found in all suitable localities throughout the country and in the north-west and north its fruit is eaten in quantities by partridge and prairie chickens. Greenland. (*Hook. Arct. Pl.*)

- (1371.) **A. tomentosa**, Dougl.

Arbutus tomentosa, Pursh. Hook. Fl. II., 36.

Dry and rocky hills of the North-West Coast. (*Douglas*.) Vancouver Island, or southern British Columbia. (*Cowley*.)

354. CAULTHERIA, Linn. (AROMATIC WINTERGREEN.)

- (1372.) **C. Myrsinites**, Hook.

Rocky Mountains, Lat. 52-54°. (*Drummond*.) Not noticed by late collectors.

- (1373.) **C. ovatifolia**, Gray.

Wooded banks of streams and cañons of the Cascade Mountains, borders of British Columbia. (*Lyall*.) This is a new species lately separated from the preceding by Dr. Gray.

- (1374.) **C. procumbens**, Linn. Wintergreen.

In sandy swamps or low woods on hummocks. Newfoundland, throughout the Maritime provinces, Quebec and Ontario to Owen Sound, Ont.; also, woods near Rat Portage. (*Macoun*.) In the Muskoka District, Ont. (*Burgess*.) Lake of the Woods. (*Dawson*.) Lake Superior. (*Capt. Back*.)

- (1375.) **C. Shallon**, Pursh. Salal.

Shady woods, British Columbia, along and near the coast. (*Gray*.) In woods on Yale Mountain, B.C. (*Macoun*.) Vicinity of Victoria, and on Queen Charlotte Islands. (*Dawson*.) Abundant in woods at Port Moody and along the Fraser River, B.C. (*Hill & Fletcher*.)

355. CASSANDRA, Don. (LEATHER LEAF.)**(1376.) C. calyculata, Don.**

Andromeda calyculata, Linn. Hook. Fl. II., 39.

Bogs and swamps, and borders of slow streams, ponds and lakelets, Labrador, Newfoundland, Anticosti and the Maritime provinces, thence westward throughout Quebec and Ontario, and through the wooded country to northern British Columbia. (*Macoun.*) Northward into part of the barren country. (*Richardson.*) Kotzebue Sound. (*Rothr. Alask.*)

356. CASSIOPE, Don. (CASSIOPE.)**(1377.) C. Stelleriana, DC.**

Andromeda Stelleriana, Pall. Hook. Fl. II., 37.

Menziesia empetriformis, Pursh. Fl. I., 265, not Smith.

North-west Coast of America, probably on Bank's Island. (*Menzies.*) North-west Coast, Sitka to Behring's Straits. (*Gray.*) Sitka. (*Rothr. Alask.*)

(1378.) C. hypnoides, Don.

Andromeda hypnoides, Linn. Hook. Fl. II., 37.

Labrador. (*Morrison.*) Summit of Mount Albert, Gaspé, Q., in shaded ravines, where snow lies nearly ten months. (*Macoun.*) North-west Coast. (*Nelson vide Hooker.*) On both sides of Baffin's Bay and Davis' Straits. (*Capt. Markham.*) Greenland. (*Hook. Arct. Pl.*)

(1379.) C. lycopodioides, Don.

Andromeda lycopodioides, Pall.

Aleutian Islands south to Oregon. (*Gray.*) Ounalashka. (*Rothr. Alask.*)

(1380.) C. Mertensiana, Pall.

Andromeda cupressina, Hook. Fl. II., 38.

Abundant on the upper wooded slopes of the mountains in Kicking Horse Pass, B.C. (*Macoun.*) Rocky Mountains north of Smoky River, Lat. 56°. (*Drummond.*) Tsi-tsult Mountains, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Bartlett Bay, Alaska. (*Meehan.*) Sitka. (*Rothr. Alask.*)

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(1381.) **C. tetragona**, Don.*Andromeda tetragona*, Linn. Hook. Fl. II., 38. Macoun's Cat., No. 1153.

From Labrador on the east to the Rocky Mountains on both sides. (*Kolmeister & Douglas*.) From Lat. 54° to the Arctic Islands. (*Richardson*.) Northern Rocky Mountains to the Arctic regions. (*Gray*.) Bartlett Bay, Alaska. (*Meehan*.) Island of St. Lawrence, Kotzebue Sound to Point Barrow, and on the Arctic coast. (*Rothr. Alask.*) Repulse Bay. (*Dr. Rae*.) Buchanan Island, and Melville Island. (*Capt. Markham*.) Back's Great Fish River. (*Capt. Back*.) Between the Coppermine and Cape Turn-again, Lat. 67° 54', Long. 115° 31' west; also at Fort Confidence, Lat. 67°. (*Dease*.) Disco, Proven, Fox Inlet, Bedevilled Beach, from Lat. 70-80°. (*Dr. Kane*.) Greenland. (*Hook. Arct. Pl.*)

357. EPICÆA, Linn. (MAYFLOWER.)(1382.) **E. repens**, Linn. Trailing Arbutus.

Gravelly, rocky or sandy woodlands, in the shade of evergreens. Abundant in Newfoundland and the Maritime provinces, Quebec and northern Ontario and westward to the west end of Lake Superior and northward to the height of land. (*Macoun*.) Westward to the Saskatchewan. (*Drummond*.)

358. ANDROMEDA, Linn. (ANDROMEDA.)(1383.) **A. polifolia**, Linn.*A. rosmarinifolia*, Pursh. Fl. I., 291. Narrow-leaved form.

Peat bogs, swamps, borders of marshes and ponds from the Atlantic to the Pacific, and northward to the Arctic Sea. This species, although, so widely distributed retains its form without variation in all latitudes. Young and late shoots have wider leaves than the normal form but that is all. Greenland. (*Hook. Arct. Pl.*)

(1384.) **A. ligustrina**, Muhl.*A. paniculata*, Ait. Michx. Fl. I., 254.

Canada. (*Pursh*.) Saskatchewan. (*Drummond*.) Wet grounds, Canada. (*Gray*.) I believe all the above references are based upon a misconception. Drummond's plant must have been the leaves of *Gaylussacia resinosa*; Pursh is unreliable; and Dr. Gray probably follows the statements of his predecessors.

*Excluded Species.***Leucothoe racemosa**, Gray.*Andromeda racemosa*, Pursh. Fl. I., 294.

Pursh credits this species, also to Canada, but as it cannot possibly be within our limits I exclude it.

359. CALLUNA, Salisb. (HEATHER.)(1385.) **C. vulgaris**, Salisb.*C. Atlantica*, Seem. Journ. Bot. IV., 305.

East coast of Newfoundland, near Ferryland, Lat. 47°, Long. 52° 50' west, forming a small patch about three yards square. The locality is in the same part of the island to which the specimens collected by Mr. Cormack, are referred, namely, the south-east peninsula; and two additional localities in this peninsula are noticed on Cormack's label, namely, the head of St. Mary's Bay and Trepassy Bay or Harbor. (*Journal of Botany*, Vol. III., page 221.) In a wet springy place, among spruce stumps, in peaty soil, overlying clay, on the farm of Mr. Robertson, St. Ann's, Inverness Co., Cape Breton Island. (*Lawson*.) Dartmouth Hills near Halifax; Point Pleasant Park, Halifax; East Bay, Cape Breton Island, in considerable quantity; Caplin Bay, two miles from Ferryland, which is about thirty-five miles south of St. John's, there is a bed of heather, of no great extent but healthy and flourishing. At Renewa, about twenty or thirty miles from Ferryland, there is also a quantity of heather, supposed to have been derived from Caplin Bay growth, but this is only conjecture. (*Lawson in Transactions of Nova Scotia Institute of Natural Science*, Vol. IV., page 167.)

360. LOISELEURIA, Desv. (ALPINE AZALEA.)(1386.) **procumbens**, Desv.*Azalea procumbens*, Linn. Hook. Fl. II., 44.

Newfoundland and Labrador. (*Morrison*.) On hill sides Cariboo, Labrador. (*Butler*.) Summit of Mount Albert, Gaspé, altitude nearly 4,000 feet. (*Macoun*.) Barren grounds from Lat. 65° to the Arctic Islands. (*Richardson*.) Bank's Islands and Mount Edgecombe, Lat. 54°. Northwest Coast. (*Menzies*.) Cape Lisburne and islands of Ounalashka and Chiamisso. (*Rothr. Alask.*) On both sides of Baffin's Bay and Davis Strait. (*Capt. Markham*.) Back's Great Fish River. (*Capt. Back*.)

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Ungava, (*McGill Coll. Herb.*) Egedesminde, Greenland, Lat. 69°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

361. BRYANTHUS, Cmel. (FALSE HEATHER.)

(1387.) **B. empetriformis**, Gray.

Menziesia empetriformis, Smith. Hook. Fl. II., 40.

Rocky Mountains from Lat. 50° to 42°; also, Vancouver Island. (*Gray.*) Nutka on the North-west Coast of America. (*Menzies.*) Lake Lindeman, source of the Youcon, Lat. 60°. (*Schwatka.*)

(1388.) **B. Grahamii**, Hook. Fl. II., 40.

B. empetriformis, Gray. Var. *intermedius*, Gray (?)

Menziesia Grahamii, Hook. Fl. II., 40.

M. intermedia, Hook. Fl. II., 40.

Alpine woods and open elevated situations of the Rocky Mountains, Lat. 55°. (*Drummond.*) Woods and open places (*M. intermedia*) in the Rocky Mountains. (*Drummond.*) South Kootanie Pass, 6,500 feet altitude, 49th parallel; eastern summit of the North Kootanie Pass; Tsi-tsult Mountains, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Abundant in some places on the higher mountain slopes, Kicking Horse Pass, B.C. (*Macoun.*)

(1389.) **B. taxifolius**, Gray.

Phyllodoce taxifolia, Salisb. Gray, Man., 297.

Menziesia cerulea, Swartz. Hook. Fl. II., 39.

Labrador. (*Morrison.*) Ungava Bay. (*McGill Coll. Herb.*) Summit of Mount Albert, 4,000 feet altitude, Gaspé. (*Macoun.*) On both sides of Baffin's Bay and Davis' Strait. (*Markham.*) Fiske Fiord, Lat. 64°; Disco Island, Lat. 70°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

(1390.) **B. Aleuticus**, Gray.

Menziesia Aleutica, Spreng. Hook. Fl. II., 40.

Phyllodoce Pallasiana, Don. Rothr. Alask., 450.

Ounalashka and Sitka. (*Rothr. Alask.*)

(1391.) **B. glanduliflorus**, Gray.

Menziesia glanduliflora, Hook. Fl. II., 40.

Rocky Mountains, Lat. 49° to 56° and west to Sitka. (*Gray.*) Rare in the Alpine woods and mountains north of Smoky River, Lat. 56°.

(*Drummond.*) South Kootanie Pass, altitude 7,000 feet, 49th parallel; Kloutch-oot-a Lake, B.C. (*Dawson.*) On the higher mountain slopes, Kicking Horse Pass. (*Macoun.*) Bartlett Bay, Alaska. (*Meehan.*)

362. *KALMIA*, Linn. (AMERICAN LAUREL.)

(1392.) *K. latifolia*, Linn. Calico-bush.

Credited to Canada by Pursh. and lately by Dr. Gray, but evidently unknown to local collectors. (*Macoun.*) Reported as being found in ravines and near ponds in the interior, up Salmon River, and on Esquimaux Island, Labrador. (*W. E. Stearns.*) Clearly a broad-leaved form of *K. angustifolia*, which is common on Anticosti, is referred to here. (*Macoun.*)

(1393.) *K. angustifolia*, Linn. Sheep Laurel, Lambkill.

Labrador, Newfoundland, Anticosti, Nova Scotia and New Brunswick, thence westward through Quebec and northern Ontario to the Georgian Bay. Very abundant in the Maritime provinces, often covering large spaces in boggy or rocky places with its beautiful purple flowers. Throughout Canada to Hudson Bay. (*Michaux.*) James Bay. (*Brown.*)

(1394.) *K. glauca*, Ait.

K. glauca, var. *rosmarinifolia*, Hook. Fl. II., 41.

Common in peat bogs from the Atlantic to the Pacific, but scarcely going north of the Arctic circle. (*Hooker.*) Newfoundland and Hudson Bay. (*Gray.*) Sitka. (*Rothr. Alask.*) Fort Wrangel, Alaska. (*Meehan.*) Point Ogle, Arctic Coast. (*McGill Coll. Herb.*) Greenland. (*Hook. Arct. Pl.*) Specimens from various localities have leaves varying from very narrowly linear and revolute to broadly oblong and almost plain, but frequently these diverse leaf forms are obtained from the same group of plants.

Var. *microphylla*, Hook. Fl. II., 41. (?)

Specimens referred to this form have the leaves sometimes in threes, almost oval, perfectly glaucous, not the least revolute and with a strong midrib. In swamps in the Rocky Mountains. (*Drummond.*) Peaty swamps along the Telegraph Trail, northern British Columbia. (*Macoun.*) Tsi-tsut Mountains, and swamps along the Skeena River, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*)

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363. LEDUM, Linn. (LABRADOR TEA.)**(1395.) L. palustre, Linn.***L. palustre*, L. Var. *angustifolium*, Hook. Fl. II., 44.

Bogs, Newfoundland, Labrador, and through the Arctic regions to Alaska and Aleutian Islands. (*Gray.*) East coast of Hudson Bay. (*R. Bell.*) Norton Sound, to Point Barrow and northern coast. (*Rothr. Alask.*) Fort Wrangel, Alaska. (*Meehan.*) Back's Great Fish River and Hudson straits. (*McGill Coll. Herb.*) Between the Coppermine River and Cape Turnagain, Lat. 67° 54', Long. 115° 31' west. (*Dease.*) Greenland. (*Hook. Arct. Pl.*) Sukkertoppen, Lat. 65°; Holsteinburg, Lat. 68°. (*Dr. Kane.*) Hudson Bay specimens have the pedicels clothed with ferruginous hairs.

Var. dilatatum, Wahl.

Approaching the next, having broader leaves and sometimes long oval capsules. North-west Coast, Sitka, &c. (*Gray.*)

(1396.) L. latifolium, Ait. Labrador Tea.*L. palustre*, L. Var. *latifolium*, Hook. Fl. II., 44.

Peat bogs and marshes from Labrador, Newfoundland and the Maritime provinces westward to the Pacific. This species has a more southern range than *L. palustre*, and may be distinguished from it by never having ten stamens but more commonly five.

(1397.) L. glandulosum, Nutt.

Southern boundary of British Columbia and in the Rocky Mountains. (*Gray.*)

364. RHODODENDRON, Linn. (ROSE BAY, AZALEA.)**(1398.) R. Kamtschaticum, Pall.**

Bank's Island and Port Edgecombe, North-west Coast, Lat. 53°. (*Menzies.*) Ounalashka. (*Rothr. Alask.*) Alaska and Aleutian Islands. (*Gray.*)

(1399.) R. albidiflorum, Hook. Mountain Rhododendron.

Alpine woods of the Rocky Mountains. (*Drummond.*) Western summit of Crow Nest Pass and eastern summit of North Kootanie Pass; Misinchinea River, near Pine River Pass, Rocky Mountains,

Lat. 55°. Tsi-tsult Mountains, B.C. (*Dawson*.) Summit of Stuart Lake Mountain; also abundant on the sides of ravines in the Kicking Horse Pass, B.C. (*Macoun*.) Cariboo Mountains, B.C. (*Cowley*.)

(1400.) **R. viscosum**, Torr. Clammy Azalea.

Azalea viscosa, Linn. Pursh Fl. II., 153. Gray, Man., 299.

Swamps, Canada. (*Pursh*.) Not known to later collectors. May probably be found along the borders of Maine.

(1401.) **R. nudiflorum**, Torr. Purple Azalea.

Azalea nudiflora, Linn. Gray, Man., 299.

A. periclymenoides, Michx. Pursh Fl. I., 153.

Swamps, low grounds or shaded hillsides, Canada. (*Gray*.) It is probable that Dr. Gray follows Pursh in giving this species a place in the Canadian flora. We have no knowledge of it.

(1402.) **R. Rhodora**, Don. Rhodora,

Rhodora Canadensis, Linn. Gray, Man., 300; Macoun's Cat., No. 1171.

Cool bogs and open peaty places. Labrador, Newfoundland, Anticosti, Nova Scotia and New Brunswick, and thence westward through Quebec to the vicinity of Montreal. This is a most beautiful shrub and in the early part of June fills the peat bogs along the Intercolonial Railway with a profusion of lovely flowers. Its western limits as far as known are: Three Rivers, Nicolet and Port St. Francis. (*MacLagan*) Beauharnois County, Q. (*McGill Coll. Herb.*)

(1403.) **R. macrophyllum**, Don. Macoun's Cat., No. 1169.

R. maximum, Hook. Fl. II., 43.

Woods, Puget Sound. (*Gray*.) North-west Coast. (*Menzies*.) Mountain woods near Hope, B.C. (*Dawson & Hill*.)

(1404.) **R. maximum**, Linn. Great Laurel or Rose Bay.

Damp woods, rare in Nova Scotia and western Ontario. Near Beaver Dam Gold Mines, Sheet Harbor, N.S. (*Lawson & Archibald*.) In woods, Norfolk Co., Ont. [?] (*Dr. Nicholl*.)

(1405.) **R. Lapponicum**, Wahl.

Labrador. (*Morrison*.) On a hill top near Amour, Labrador. (*Butler*.) Summit of Mount Albert, altitude 4,000 feet, Gaspé. (*Macoun*.) Summits of the Rocky Mountains north of Smoky River, Lat. 56°. (*Drummond*.) Barren grounds from Lat. 65° to the Arctic seashore and islands. (*Richardson*.) Norton Sound. (*Nelson*.) Port

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Clarence. (*Rothr. Alask.*) Both sides of Baffin's Bay and Davis Strait. (*Capt. Markham.*) Back's Great Fish River. (*Capt. Back.*) Between the Coppermine and Cape Turn-again, Lat. $67^{\circ} 54'$, Long. $115^{\circ} 31'$ west. (*Dease.*) Holsteinburg, Lat. 68° . (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

365. MENZIESIA, Smith.

(1406.) **M. glabella**, Gray.

M. globularis, Hook. Fl. II., 41.

Alpine woods north of Smoky River, Lat. 56° . (*Drummond.*) Bow River Pass. (*Bourgeau.*) South Kootanie Pass, 49th parallel; eastern summit of North Kootanie Pass and western summit of same pass; also Michell Creek, Crow Nest Pass. (*Dawson.*) Very abundant in the Kicking Horse Pass close to the railway, B.C. (*Macoun.*)

(1407.) **M. ferruginea**, Smith.

North-west Coast. (*Menzies.*) Queen Charlotte Islands. (*Dawson.*) Port Hammond, B.C. (*Fletcher.*) Sitka and Ounalashka. (*Rothr. Alask.*) Fort Wrangel and Pyramid Harbor, Alaska. (*Meehan.*) Woods, coast of British Columbia to Alaska and the Aleutian Islands. (*Gray.*)

366. CLADOTHAMNUS, Bong.

(1408.) **C. pyrolæflorus**, Bong.

Tolmiea occidentalis, Hook. Fl. II., 45.

North-west Coast. (*Menzies.*) Low woods, Washington Territory to Alaska. (*Gray.*) Sitka. (*Rothr. Alask.*)

367. PYROLA, Linn. (SHIN-LEAF, WINTERGREEN.)

(1409.) **P. minor**, Linn.

Cold woods, Labrador. (*Morrison.*) Cool woods near Dalhousie, N.B. (*Fletcher.*) Kamarouska, Q. (*Burgess.*) Cold woods, North Sydney, Cape Breton; cool ravines, Gaspé Basin; summit of Mount Albert, 4,000 feet altitude, Gaspé. In woods on Pie Island, Thunder Bay, and in woods on the Portage at Kakabeka Fall, 30 miles above Fort William; also on Lake Ellen, Nipigon River, and very abundant on islands in Humboldt and Wabanosh bays, Lake

Nipigon. (*Macoun.*) Woods in the Rocky Mountains. (*Drummond.*) Michell Creek, Crow Nest Pass, Rocky Mountains. (*Dawson.*) Barren country from Lat. 64° to the Arctic coast and islands. (*Richardson.*) Observatory Inlet, North-west Coast. (*Scouler.*) Ounalashka. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(1410.) **P. secunda**, Linn.

Rich woods throughout Canada from Newfoundland and the Maritime provinces to the Pacific and far northward on the Mackenzie. A very common species and equally as abundant west of the mountains as eastward. Greenland. (*Hook. Arct. Pl.*)

Var. **pumila**, Gray, Man. Ed. V., 302.

Peat bogs and mossy swamps from Labrador to Alaska. (*Gray.*) Cedar swamps, North Hastings, Ont. (*Macoun.*) Swamps, London, Ont. (*Burgess.*) Swamps south of Red Rock. Lake Superior. (*Macoun.*)

Var. β . *Hook. Fl. II.*, 45.

Woods of Portage River, near La Grande Côte, Rocky Mountains. (*Drummond.*) Leaves narrow and acuminate.

(1411.) **P. chlorantha**, Swartz.

Rather dry or sandy woods generally under conifers, from Newfoundland, Labrador and the Maritime provinces westward to the Rocky Mountains and northern British Columbia, and northward to Bear Lake. (*Richardson & Gray.*) Woods, Truro, Pirate's Cove, Gut of Canso, and near Annapolis, N.S.; North Sydney, Cape Breton. (*Macoun.*) Lily Lake, St. John, N.B. (*Hay.*) Dalhousie, N.B. (*Fletcher.*)

Var. **occidentalis**, Gray.

P. occidentalis, R. Br. *Hook. Fl. II.*, 47.

Rocky Mountains, Bow River Pass. (*Bourgeau.*) Sledge Island on the North-west Coast. (*Nelson.*) Alaska to Kotzebue Sound. (*Gray.*)

(1412.) **P. elliptica**, Nutt.

P. rotundifolia, Michx. *Fl. L.*, 251, in part.

Rich woods. Quite common from Nova Scotia and New Brunswick westward through Quebec and Ontario to Owen Sound. (*Macoun.*) Lake of the Woods; Winnipeg and North-west Angle Road, and in thickets, Turtle Mountain, 49th parallel. (*Dawson.*) Westward to the Saskatchewan. (*Drummond.*)

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(1413.) **P. rotundifolia**, Linn. Round-leaved Wintergreen.

Sandy or dry woods, in swamps or on mountain tops from the Atlantic to the Pacific and northward to the Arctic regions, under its various varieties. Greenland. (*Hook. Arct. Pl.*)

Var. **incarnata**, DC.

Flowers from flesh color to rose purple; calyx lobes triangular-lanceolate. Cold woods and bogs, northern New England to the Aleutian Islands. (*Gray.*) Throughout Canada to Bear Lake. (*Richardson.*) From Hudson Bay to the Rocky Mountains. (*Drummond.*) Dalhousie and Pictou, N.S. (*McKay.*) Occurs near Fredericton, N.B. (*Prof. Bailey.*) Near Edmonton, N.B. (*Hay.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*)

Var. **asarifolia**, Hook. Fl. II., 46.

Pyrola asarifolia, Michx. Fl. I., 251; Pursh Fl. I., 299.

Leaves round-reniform, orbicular-subcordate, or inclined to oblate-orbicular: scape slender. Not uncommon, northward and westward to the Rocky Mountains. (*Gray.*) Not rare in New Brunswick. (*Fowler's Cat.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Dawson Road west of Lake Superior. (*Burgess.*) Common in thickets throughout the North-west to the base of the Rocky Mountains. (*Macoun.*) From Hudson Bay to the Rocky Mountains. (*Drummond.*) Northward to Bear Lake. (*Richardson.*)

Var. **uliginosa**, Gray.

Leaves from subcordate to oblate, generally dull. Flowers rose-colored or purple. Calyx lobes shorter than preceding, usually broadly ovate, sometimes obtuse. Cold bogs, northward, nearly across the continent. (*Gray.*) Andover, N.B. (*Hay.*) Peat bogs at Belleville and north-westerly to the Rocky Mountains in the Bow River Pass. (*Macoun.*) Michell Creek, Crow Nest Pass, Rocky Mountains; also, Qualcho Lake, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*)

Var. **bracteata**, Gray.

Pyrola bracteata, Hook. Fl. II., 47.

Coniferous woods, British Columbia. (*Gray.*) North-west Coast. (*Scouler.*) Small prairie in cedar bush on Wigwam River, Rocky Mountains, B.C. (*Dawson.*)

Var. **pumila**, Hook.

From Labrador to the Mackenzie River, along the Arctic coast. (*Gray.*)

(1414.) **P. picta**, Smith.*P. dentata*, Hook. Fl. II., 47.

Nutka Sound and North-west Coast. (*Menzies*.) Thickets at Spuzum above Yale, B.C. (*Fletcher*.)

(1415.) **P. aphylla**, Smith.

Puget Sound. (*Gray*.) Very likely in woods on Vancouver Island.

368. MONESES, Salisb. (ONE-FLOWERED WINTERGREEN.)(1416.) **M. uniflora**, Gray.*M. grandiflora*, Salisb. Rothr. Alask., page 450.*Pyrola uniflora*, Linn. Hook. Fl. II., 45.

Very common in shady or mossy woods from Labrador, Newfoundland and the Maritime provinces westward to the Pacific and northward to Lat. 64°. (*Hooker*.)

369. CHIMAPHILA, Pursh. (PIPSISSEWA.)(1417.) **C. umbellata**, Nutt. Prince's Pine.*C. corymbosa*, Pursh Fl. I., 300.

Dry and generally coniferous woods from Nova Scotia and New Brunswick westwardly throughout Quebec and Ontario, thence westward through the forest country to the coast of British Columbia and Vancouver Island.

(1418.) **C. Menziesii**, Spreng. Hook. Fl. II., 49.

Coniferous woods, British Columbia. (*Gray*.) North-west Coast. (*Menzies*.)

(1419.) **C. maculata**, Pursh. Spotted Wintergreen.*Pyrola maculata*, Linn. Michx. Fl. I., 251.

Dry woods, western Ontario. Vicinity of Hamilton, Ont. (*Logie*.) Chippawa and St. Catharines, Ont. (*MacLagan*.) St. James' Cemetery, Toronto. (*Fowler*.)

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LVII. MONOTROPEÆ. PIPE-WORT FAMILY.

370. **PTEROSPORA**, Nutt. (PINE-DROPS.)

(1420.) **P. andromeda**, Nutt.

Usually under pines in dry woods. Near Quebec. (*Goldie*.) Pine woods along the Gatineau, near Chelsea, Q., in the vicinity of Ottawa. (*Fletcher Fl. Ott.*) Pine woods near the gravel pit, Belleville; pine woods near Cannifton, Hasting Co.; also near Meyersburg, Northumberland Co., and along the Humber a little west of Toronto. (*Macoun*.) Woods near Cline's mill west of Hamilton. (*Logie*.) Near Niagara Falls. (*Hooker*.) Near the Whirlpool on the American side of the Niagara River. It should also be found on the Canadian side. (*David F. Day*.) Saskatchewan. (*Drummond*.)

371. **ALLOTROPA**, Torr. & Gray.

(1421.) **A. virgata**, Torr. & Gray.

Under oaks, &c. Cascade Mountains. (*Gray*.) Somewhere in southern British Columbia. (*Cowley*.)

372. **MONOTROPA**, Linn. (INDIAN PIPE, PINE SAP.)

(1422.) **M. uniflora**, Linn. Indian Pipe.

Damp woods not uncommon. Anticosti, Nova Scotia and New Brunswick and westward throughout Quebec and Ontario to the height of land above Lake Superior. (*Macoun*.) Lake of the Woods. (*Dawson*.)

373. **HYPOPITYS**, Scop. (PINE SAP.)

(1423.) **H. lanuginosa**, Nutt.

Monotropa Hypopitys, Linn. Gray, *Man.*, 305. Macoun's Cat., No. 1186.

In spruce woods, common on Anticosti; Pirate's Cove, Gut of Canso, N.S., and in woods at North Sydney, Cape Breton. (*Macoun*.) Dalhousie and Pictou, N.S. (*McKay*.) Under spruce, not pine, in College Woods, Windsor, Hants Co., N.S. (*How*.) Growing in the shade of pine trees at St. Andrews, N.B. (*Vroom*.) Lily Lake, St. John, N.B.

(*Hay.*) In woods, Petitecodiac, Westmorland Co., N.B. (*Brittain.*) Very abundant on the slopes of Mount Albert, Gaspé, under spruce and birch. (*Macoun.*) Occasionally met with in damp woods along the River Rouge, Q. (*D'Urban.*) St. Andrews, near Montreal. (*McGill Coll. Herb.*) Mixed woods, Kennebec, Addington Co., Ont.; Rich woods in Brighton and Seymour, Northumberland Co., Ont. (*Macoun.*) Woods near Hamilton, Ont. (*Logie.*) Malden. (*MacLagan.*) Sou-sou-wa-ga-mi Creeks, in moss, amongst balsams, spruces and birches. (*R. Bell.*)

LVIII. DIAPENSIACEÆ. DIAPENSIA FAMILY.

374. DIAPENSIA, Linn. (DIAPENSIA.)

(1424.) **D. Lapponica**, Linn.

Labrador. (*Morrison.*) Common on hill tops at Caribou, Labrador. (*Butler.*) Summit of Mount Albert, Gaspé, altitude nearly 4,000 feet. (*Macoun.*) Table Top Mountain, Gaspé. (*Porter.*) Mouth of Great Fish River. (*Capt. Buck.*) Whale Island, Arctic America. (*Capt. Parry.*) On both sides of Baffin's Bay and Davis Strait. (*Capt. Markham.*) Smith's Sound, Lat. 73°. (*Dr. Kane.*) Greenland (*Hook. Arct. Pl.*)

LIX. PLUMBAGINACEÆ. LEAD-WORT FAMILY.

375. STATICE, Linn. (SEA-LAVENDER, MARSH-ROSMARY.)

(1425.) **S. Limonium**, Linn. Var. **Caroliniana**, Gray.

S. Caroliniana, Walt. Hook. Fl. II., 123.

Newfoundland. (*Miss Brenton.*) Labrador. (*Gray.*) Beaches at Boat Harbor, Pictou, N.S. (*McKay.*) Halifax Harbor, N.S. (*Lawson.*) River Avon at Windsor, N.S. (*How.*) Marshes near Truro, N.S. (*Macoun.*) Common in salt marshes around the coast of New Brunswick. (*Fowler's Cat.*) Lower St. Lawrence. (*Burgess.*)

376. ARMERIA, Willd. (THRIFT. SEA PINK.)

(1426.) **A. vulgaris**, Willd. Common Thrift.

Statice Armeria, Linn. Hook. Fl. II., 123.

Sea shores, probably in every latitude; on the extreme Arctic coasts

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and islands ; and in Labrador, Newfoundland and North-west America ; and the barren country of the interior. (*Hooker.*) In great profusion on the summit of Mount Albert, Gaspé, altitude 4,000 feet. Coast of Vancouver Island. (*Macoun.*) Victoria, Vancouver Island. (*Fletcher & Meehan.*) Greenland. (*Hook. Arct. Pl.*)

LX. PRIMULACEÆ. PRIMROSE FAMILY.

377. PRIMULA, Linn. (PRIMROSE.)

(1427.) **P. farinosa**, Linn. Bird's Eye Primrose.

P. Scotica, Hook. Fl. II., 120.

Crevices of rocks and exposed points along the sea, lakes or rivers. Labrador. (*Butler.*) Rather rare at Harrington Harbor and on the neighbouring islands, Labrador. (*W. E. Stearns.*) Abundant on Anticosti, west side. (*Macoun.*) Near Annapolis, N.S. (*McKay.*) Hall's Harbor, King's Co., N.S. (*How.*) Shore of Kennebecasis, N.B. (*Fowler's Cat.*) Mouth of the Restigouche, near Campbellton, N.B. (*Chalmers.*) Very abundant, in crevices of rocks, along the Gaspé coast from Cape Rosier to Matane. (*Macoun.*) Quebec, Island of Orleans. (*Thomas.*) Temiscouta, Q. (*Burgess.*) Shore of Red Bay, Lake Huron ; and north-east coast of Lake Superior ; also around Lake Nipigon. Very abundant in the beds of small brooks and around the margins of ponds from Manitoba westward through the prairie region to the Rocky Mountains. Many specimens are from 12 to 18 inches high and very stout, producing often over thirty flowers in a capitate cluster. These are as mealy as the Gaspé specimens, while those from Anticosti are also tall and stout but almost glabrous. (*Macoun.*) Moose Mountain Creek and in profusion on the greater part of the Souris Plain. (*J. M. Macoun, C. P. R. Coll.*)

(1428.) **P. Mistassinica**, Michx.

P. stricta, Hornem. Rothr. Alask., 451.

P. Hornemanniana, Hook. Fl. II., 120.

Wet banks and shores abundant but local. It grows at Bonne Espérance and neighboring islands and at Forteau, Labrador. (*Butler.*) On a wet bank along a small brook at Truro, N.S. (*Macoun & Campbell.*) Near St. Stephen, N.B. (*Vroom.*) Up the Dartmouth and other rivers of Gaspé. (*J. Bell.*) Rocks along the sea shore at Rivière-du-Loup. (*Thomas.*) Lake Mistassini, Q. (*J. Richardson.*) North-east shore of Lake Huron at Red and Chicken bays ; very common

around Lake Superior, and westward to the Red Deer River at the head of Lake Winnipegosis where it grows in profusion around salt springs. (*Macoun.*) Canada to Great Bear Lake. (*Richardson.*) West to the Rocky Mountains. (*Drummond.*) Kotzebue Sound. (*Rothr. Alask.*) West of the Mackenzie River. (*Dease.*) Ungava Bay. (*McGill Coll. Herb.*) Greenland. (*Hook. Arct. Pl.*)

(1429.) **P. borealis**, Duby.

Alaska and islands to Kotzebue Sound, &c. (*Gray.*) Bartlett Bay, Alaska. (*Meehan.*)

(1430.) **P. Sibirica**, Jacq.

Barren country between Lat. 60° and 69°, in clayey soil, by river banks and in marshy grounds. (*Richardson.*) Northern North-west Coast and islands. (*Gray.*) Fort Confidence, Lat. 65° 55', Long. 118° 48'. (*Dease.*) Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*) Greenland. (*Hook. Arct. Pl.*)

(1431.) **P. nivalis**, Pall.

Ounalashka to Behring's Straits and St. Paul's Island. (*Gray.*) Islands of Ounalashka and St. Lawrence, and Kotzebue Sound. (*Rothr. Alask.*) Cape Newenham. (*Nelson.*) Mount Edgecomb, Alaska. (*Menzies.*)

(1432.) **P. cunelifolia**, Ledeb.

P. saxifragæfolia, Lehm. Hook. Fl. II., 121.

Aleutian Islands to Behring's Straits. (*Gray.*) Ounalashka. (*Menzies.*) Cape Newenham. (*Nelson.*) Kotzebue Sound. (*Capt. Beechy.*)

(1433.) **P. vulgaris**, Huds. Common Primrose.

Well established in meadows in the vicinity of Victoria, Vancouver Island. May, 1875. (*Macoun.*)

(1434.) **P. officinalis**, Linn. Cowslip.

P. vera, Linn. Macoun's Cat., No. 1203.

Well established in meadows about a mile inland from North Sydney, Cape Breton; also in meadows at Victoria, Vancouver Island. (*Macoun.*)

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378. ANDROSACE, Linn.

(1435.) **A. Chamæjasme**, Host.

Alpine region of the Rocky Mountains from Lat. 49° to the Arctic coast, Behring's Straits, and islands. (*Gray.*) In the bed of Bow River at Morley and thence into the Bow River Pass. (*Macoun.*) Rocky Mountains, Bow River Pass. (*Bourgeau.*) Heights of the Rocky Mountains. (*Drummond.*) From Fort Norman to the Arctic coast. (*Richardson.*) Islands of Behring's Straits. (*Menzies.*) Cape Newenham. (*Nelson.*) Kotzebue Sound to Wainwright Island. (*Rothr. Alask.*)

(1436.) **A. occidentalis**, Pursh.

Generally on dry gravelly or sandy soil. Sandy island at the mouth of Rainy River. (*Macoun.*) Base of Pembina Mountain, 49th parallel; also on a gravel ridge along the Belly River west of Fort McLeod. (*Dawson.*) On arid soil, Spence's Bridge, Thompson River, B. C. (*Macoun.*)

(1437.) **A. septentrionalis**, Linn.

From the Saskatchewan to the heights of the Rocky Mountains. (*Drummond.*) North to Lat. 68° on the Mackenzie River. (*Richardson.*) Along the Saskatchewan near Fort Pitt; Bad Hills south of Eagle Hills, and gravel ridges in the Cypress Hills and along the Bow River near Morley; frequent along the railway from Brandon westward. (*Macoun.*) South of Moose Mountains, and abundant on the Souris Plain. (*J. M. Macoun, C. P. R. Coll.*) Winnipeg and North-west Angle Road; near Badger Creek, on the prairie; and on the prairie near Turtle Mountain, 49th parallel. (*Dawson.*) Very abundant and tall in the Athabasca district and westward into northern British Columbia. (*Macoun.*) West summit of the North Kootanie Pass; also, Curt-ya Lake, B.C. (*Dawson.*) Kotzebue Sound and Chamisso Island, and Fort Youcon. (*Rothr. Alask.*) Between the Coppermine River and Cape Turnagain, Lat. 67° 54', Long. 115° 31' west. (*Dease.*)

379. DOUGLASIA, Lindl.

(1438.) **D. nivalls**, Lindl.

Near the sources of the Columbia at an elevation of 12,000 feet above the level of the sea. (*Douglas.*)

(1439.) **D. arctica**, Hook.

Arctic seashore between the Mackenzie and Coppermine rivers. (Richardson.)

380. DODECATHEON, Linn. (AMERICAN COWSLIP.)(1440.) **D. Meadia**, Linn.

D. integrifolium, Michx. Hook. Fl. II., 118.

Grassy moist prairies. Abundant at and near Brandon and westward to Moose Jaw Creek; boggy ground west of the Touchwood Hills; in the valley of Bow River at Morley. (Macoun.) Moose Mountain Creek and Souris Plain. (J. M. Macoun, C. P. R. Coll.) Near Turtle Mountain, on the prairie, also near Badger Creek and westward to the Rocky Mountains on the 49th parallel; Fossil Coulee, Milk River Ridge. (Dawson.) Near Carlton and on prairies of the Rocky Mountains. (Drummond.) Kenashow Islands, Alaska. (Meehan.)

Var. **macrocarpum**, Gray.

Damp grassy places at Victoria, Vancouver Island; also, at the base of the cliffs close to Yale, B.C. (Macoun & Hill.) Vicinity of Victoria. (Dawson & Fletcher.) From Lat. 49° to Alaska. (Gray.) Sitka, Kotzebue Sound, and Cape Lisburne. (Rothr. Alaska.)

Var. **lanceifolium**, Gray.

On an island at Kanaka Bar, Fraser River, B.C., not elsewhere seen. (Hill.) This form has both leaves and stem covered with glandular hairs as well as the pedicels and calyx.

Var. **frigidum**, Gray.

D. frigidum, Cham & Schlecht. Hook. Fl. II., 119.

West side of the Rocky Mountains. (Douglas.) Kotzebue Sound. (Capt. Beechy.) Arctic seashore. (Capt. Back.)

Var. **latilobum**, Gray.

D. dentatum, Hook. Fl. II., 119 (?).

Somewhere near the Columbia. (Douglas.) Cascade Mountains, British Columbia or Washington Territory. (Gray.)

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381. TRIENTALIS, Linn. (STAR-FLOWER.)

(1441.) **T. Americana**, Pursh. Chickweed Wintergreen.

T. Europæa, Michx. Fl. I., 209.

Damp grassy woods, quite common. Newfoundland, Labrador, Anticosti and the Maritime provinces, westward throughout Quebec and Ontario, and through the wooded country to Lake Manitoba. (*Macoun.*) West to the Saskatchewan. (*Drummond.*)

(1442.) **T. Europæa**, Linn.

Along the Thompson River above Lytton, B.C. (*Dawson.*) Near Stuart Lake, northern British Columbia. (*Macoun.*) Cassiar, B.C. (*Cowley.*) Sitka and Norton Sound. (*Rothr. Alask.*) Sitka. (*Meehan.*) Queen Charlotte Islands. (*Dawson.*)

Var. **arctica**, Ledeb.

T. arctica, Fischer. Hook. Fl. II., 121.

Mountains from Lat. 49° to Aleutian Islands and Behring's Straits. (*Gray.*) Cariboo Mountains, B.C. (*Cowley.*) Near McLeod's Lake, northern British Columbia, Lat. 55°. (*Macoun.*) Iltasyouco River, B.C. (*Dawson.*) Western shores and islands from Sandy Bay in Clarence Straits to Ounalashka. (*Hooker.*) Kanesburg, Alaska. (*Meehan.*) Remarkable for its glandular pedicels.

Var. **latifolia**, Torr.

T. latifolia, Hook. Fl. II., 121.

North-west Coast. (*Hooker.*) Damp thickets, near Victoria, Vancouver Island. (*Macoun & Fletcher.*)

382. STEIRONEMA, Raf. (LOOSESTRIFE.)

(1443.) **S. ciliatum**, Raf.

Lysimachia ciliata, Linn. Gray, Man., 315. Macoun's Cat., No. 1211.

In damp thickets from Nova Scotia and New Brunswick westward throughout Quebec and Ontario, thence westward to the prairie region where it is extremely abundant near small ponds and through the Rocky Mountains to the Pacific Coast.

(1444.) **S. lanceolatum**, Gray.

Lysimachia lanceolata, Walt. Gray, Man., 315. Macoun's Cat., No. 1217.

Low grounds and thickets, western Ontario. (*Gray.*) Point Albino, Lake Erie. (*Day.*) Vicinity of London, Ont. (*Burgess.*)

(1445.) **S. longifolium**, Gray.*Lysimachia longifolia*, Gray, *Man.*, 316. *Macoun's Cat.*, No. 1215.*L. revoluta*, Nutt. *Hook. Fl. II.*, 122.

Banks of streams, Lake Winnipeg to Niagara. (*Gray.*) Frequent in crevices of rocks at Niagara Falls and swampy shore of Lake Huron at Red Bay; also, marshes at Point Edward near Sarnia. (*Macoun.*) Swamp near Niagara Falls and vicinity of London. (*Burgess.*) Islands in the Detroit River, and at Sandwich, Ont. (*MacLagan.*) Collingwood, Ont. (*Logie.*)

383. LYSIMACHIA, Linn. (LOOSESTRIFE.)(1446.) **L. quadrifolia**, Linn.

Sandy or gravelly soil, not common, New Brunswick. (*Gray.*) Rocky woods, Grimsthorpe, Addington Co., and Elziver, Hastings Co.; also, Rice Lake Plains and at Port Dover Junction, near Lake Erie. (*Macoun.*) East Flamboro', near Hamilton, Ont. (*Logie.*) Sandwich, Ont. (*MacLagan.*) Vicinity of Toronto. (*Burgess & Fowler.*) Point Albino, Lake Erie. (*David F. Day.*)

(1447.) **L. stricta**, Ait.*L. racemosa*, Lam. *Michx. Fl. I.*, 128.

Common in low meadows along brooks and rivers from Anticosti, Nova Scotia, and New Brunswick, westward throughout Quebec and Ontario to six miles west of Thunder Bay. (*Macoun.*) Newfoundland to the Saskatchewan. (*Gray.*)

(1448.) **L. punctata**, Linn. *β. verticillata*, English Botany.*L. verticillata*, Bieb. *DC. Prodr. Vol. VIII.*, 65.

Quite common along roadsides and in fields near Annapolis, N.S.; also in some old gardens at Belleville, Ont. Very likely introduced from France. (*Macoun.*)

(1449.) **L. nummularia**, Linn. Moneywort.

Sparingly *naturalized* in old gardens and by brooks in lawns and parks. Old gardens at Belleville and Campbellford, Ont. (*Macoun.*) Harbor Grace, Newfoundland. (*McGill Coll. Herb.*)

(1450.) **L. thyrsoflora**, Linn.*L. capitata*, Pursh *Fl. I.*, 135.

Swamps and by cold brooks or in springs from Nova Scotia, and New

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Brunswick, westward throughout Canada to the Pacific and northward to the Mackenzie River and north-westward to Alaska.

384. *CLAUX*, Linn. (SEA MILKWORT.)

(1451.) *C. maritima*, Linn.

Salt marshes along the coast of the Atlantic and Gulf of St. Lawrence from Newfoundland and Labrador to the coast of Maine. Common in the prairie region on the borders of saline lakes and marshes, also in the interior of British Columbia and along the coast in marshes to Alaska.

385. *ANACALLIS*, Linn. (PIMPERNEL.)

(1452.) *A. arvensis*, Linn.

Naturalized in a few places. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) Ballast heaps and along the harbor, Pictou, N.S. (*Macoun & McKay.*) Digby, Granville and Annapolis, N.S. (*How.*) St. Andrews, N.B. (*Vroom.*) Ballast heaps, St. John, N.B. (*Hay.*) Vicinity of Ottawa, Ont. (*Fletcher Fl. Ott.*) On the sides of the streets in Kingston, Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*)

386. *CENTUNCULUS*, Linn. (CHAFFWEED.)

(1453.) *C. minimus*, Linn.

C. lanceolatus, Michx. Fl. I., 93.

Low damp places on the prairie, at the Bad Hills south-east of the Eagle Hills; also near the Hand Hills, and in damp spots at Reed Lake west of Old Wives Lakes. (*Macoun.*)

387. *SAMOLUS*, Linn. (BROOKWEED, WATER PIMPERNEL.)

(1454.) *S. Valerandi*, Linn. Var. *Americanus*, Gray.

S. Valerandi, Linn. Hook. Fl. II., 122.

Wet places especially in or along spring brooks. Muddy shore of a small brook at Kouchibougauc, N.B. (*Fowler's Cat.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Swamps between Cannifton and Belle-

ville, and in a swamp, one mile east of Campbellford, Northumberland Co., Ont.; also along Indian River, near Owen Sound. (*Macoun.*) St. Catharines, Ont. (*MacLagan.*) In the vicinity of Hamilton, Ont. (*Buchan.*) Neighborhood of London, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*) Mount Edgecomb, North-west Coast. (*Scouler.*)

LXI. OLEACEÆ. OLIVE FAMILY.

388. FRAXINUS, Linn. (ASH.)

(1455.) *F. Americana*, Linn. (White Ash.)

F. epiptera, Michx. Hook. Fl. I., 50.

F. acuminata, Lam. Pursh Fl. I., 9.

Rich woods, becoming a fine tree both in the forest and along old fences. Not very common in Nova Scotia, but rather more so in New Brunswick, increasingly so in Quebec, and quite common in Ontario where it is a valuable and important tree. Whycomah, Cape Breton, is its eastern limit as far as known, and its western one at Owen Sound, but it is likely to be found much farther west.

(1456.) *F. pubescens*, Lam. Red Ash or River Ash.

On alluvium along rivers and margins of lakes, not in swamps. A fine tree with light easily splitting wood often named "Rim Ash" on this account. Halifax, N.S. (*Lawson.*) Not noticed in New Brunswick. Vicinity of Montreal; also Beauharnois Co., Q., and at Kemptville, Ont. (*McGill Coll. Herb.*) Gatineau Point and other suitable localities in the vicinity of Ottawa. (*Fletcher & Whyte.*) Not uncommon at Prescott, Ont. (*Billings.*) River banks and margins of lakes throughout Ontario and westward to Red Deer River at the head of Lake Winnipegosis, Lat. 53° and in the valleys of the Red and Assiniboine rivers.

(1457.) *F. viridis*, Michx. Green Ash.

F. Americana, Hook. Fl. II., 51.

F. Caroliniana, Pursh Fl. I., 9.

F. juglandifolia, Willd. Pursh Fl. I., 9.

Valley of Sydenham River, near Owen Sound, Ont.; valleys of the Assiniboine and Red rivers west to Shell River above Fort Ellice. Dirt Hills along the margin of the Souris Plain. (*Macoun.*) Vicinity of Winnipeg. (*Bourgeau.*) The distribution of this and the preceding species is not very well understood, and collectors are earnestly requested to pay more attention to trees in their collecting of specimens.

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- (1458.) **F. quadrangulata**, Michx. Blue Ash.

Abundant on Pelee Island and Pelee Point, Lake Erie, and possibly on other points on the shores of that lake. (*Macoun.*)

- (1459.) **F. Oregona**, Nutt. Oregon Ash.

F. pubescens, Willd. Var. β . Hook. Fl. II., 51.

Seen growing at Victoria, Vancouver Island. Indigenous. [?] (*Meehan.*) The specimens seen by Mr. Meehan are introduced, but the tree is probably indigenous in the lower valley of Fraser River, B.C.

- (1460.) **F. sambucifolia**, Lam. Black or Swamp Ash.

Swamps and river bottoms from Anticosti, on Beesie River throughout Canada to the western side of Lake Superior, where it ascends the Kaministiquia River, about two miles; also on Nipigon River and east side of Nipigon Lake. This is the most plentiful tree of the series and in Ontario grows to an immense size.

389. LIGUSTRUM, Linn. (PRIVET.)

- (1461.) **L. vulgare**, Linn.

Scarcely *naturalized*, but occasionally met with in old gardens and along fences near where houses have stood. Well established near Clifton, Niagara Falls. (*David F. Day.*) Naturalized at Delaware, Ont. (*McGill Coll. Herb.*)

LXII. APOCYNACEÆ. DOGBANE FAMILY.

390. APOCYNUM, Linn.

- (1462.) **A. androsæmifolium**, Linn. Spreading Dogbane.

Borders of thickets and along fences and in old fields from the Atlantic to the Pacific. The form which is most frequently found from Anticosti throughout Canada, has its leaves pubescent underneath, while the Rocky Mountain plant is perfectly smooth in every part. There are three forms of this species.

Var. **incanum**, A. DC.

The downy-leaved form which is found eastward.

Var. **glabrum**,

The normal form, but seems to be wanting in eastern Canada. Kootanie Valley, Rocky Mountains. (*Dawson.*)

Var. pumilum, Gray.

A very low and peculiar round-leaved form which extends northward to the borders of British Columbia. (*Gray.*)

(1463.) A. cannabinum, Linn. Indian Hemp.

This species has nearly the same range as the last and the forms vary just as much. Three forms of this species are likewise recognised.

Var. pubescens,

A. pubescens, Torrey Fl. I., 276.

In the blown sand along the shore of Lake Erie at Point Pelee. (*Macoun.*) Possibly not uncommon.

Var. glaberrimum, DC.

This, we take, as the common eastern form. All our specimens from the older provinces are of this type.

Var. hypericifolium, Gray.

A. hypericifolium, Ait. Hook. Fl. II., 52.

Throughout Canada to the Saskatchewan. (*Drummond.*) Frequent in grassy thickets from Manitoba to the Rocky Mountains and British Columbia. All the forms of these two species should be collected and examined, so that we may be enabled to speak decisively of their distribution.

LXIII. ASCLEPIADACEÆ.

391. ASCLEPIAS, Linn. (MILKWEED. SILKWEED.)**(1464.) A. tuberosa, Linn. Pleurisy-root.**

Abundant in the vicinity of Belleville and westward towards Trenton, Ont.; Rice Lake Plains and northward into Peterboro' and Victoria counties. (*Macoun.*) Flamboro' near Hamilton, Ont. (*Logie.*) Niagara Falls and Malden. (*MacLagan.*) Vicinity of London, Ont. (*Burgess.*) Lake Huron. (*Dr. Todd.*) Whirlpool, Niagara River, and at Strathroy, Ont. (*McGill Coll. Herb.*)

(1465.) A. incarnata, Linn. Swamp Milkweed.

A. amœna, Willd. Pursh. Fl. I., 181.

In marshes and ditches quite common in Ontario. Keswick Valley, N.B. (*Prof. Bailey.*) Lower Norton and Hammond River, N.B. (*Brittain.*) Charlotte County, N.B. (*Vroom.*) Abundant from Quebec westward to Owen Sound. (*Macoun.*) Lake of the Woods. (*Dawson.*) Throughout Canada to the Saskatchewan. (*Drummond.*)

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(1466.) **A. speciosa**, Torr.

A. Douglasii, Hook. Fl. II., 53.

Not rare on the prairie from Manitoba to the Rocky Mountains. (*Macoun.*) Border of a stream near Wood Mountain, 49th parallel. (*Dawson.*) Medicine Hat and Maple Creek, Assiniboia. (*J. M. Macoun.*)

(1467.) **A. Cornuti**, Decaisne. Common Milkweed.

A. Syriaca, Linn. Hook. Fl. II., 53.

Fredericton, N.B. (*Fowler's Cat.*) Abundant in fields and borders of thickets from the Island of Orleans westward throughout Quebec and Ontario to Owen Sound. (*Macoun.*) Canada to the Saskatchewan. (*Richardson.*)

(1468.) **A. phytolaccoides**, Pursh. Poke Milkweed.

A. nivea, Sims. Hook. Fl. II., 52.

Borders of woods and old fields at Belleville, Ont., rather rare. (*Macoun.*) Rather rare at Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Logie.*) Malden and islands in Detroit River. (*MacLagan.*) Port Stanley Railway Track common. (*Saunders.*) Vicinity of London, Ont. (*Burgess.*) Coldstream, Ont. (*McGill Coll. Herb.*) Vicinity of Toronto. (*Fowler.*)

(1469.) **A. ovalifolia**, Decaisne. Oval-leaved Milkweed.

A. variegata, var. *minor*, Hook. Fl. II., 52.

Very abundant throughout Manitoba and westward towards the Rocky Mountains. (*Macoun.*) Red River Prairie and Pembina Mountain, 49th parallel. (*Dawson.*) Moose Mountain and westward on the Souris Plain. (*J. M. Macoun*, *C. P. R. Coll.*) Plains of the Red River and banks of the Assiniboine, and west to the Saskatchewan at Carlton. (*Drummond.*)

(1470.) **A. quadrifolia**, Linn. Four-leaved Milkweed.

Dry soil, rare in Ontario. Canada. (*Dr. Beck.*) Adolphustown, Bay of Quinte. (*R. M. Stark.*) Vicinity of Napanee, Ont. (*Rev. John Scott.*)

(1471.) **A. verticillata**, Linn. Whorled Milkweed.

Vicinity of Niagara Falls. (*Burgess.*) Malden, Ont. (*MacLagan.*) Abundant on the alluvial plains of the Red River, and banks of the Saskatchewan near Fort Carlton. (*Douglas.*) Sparingly between Winnipeg and Portage La Prairie. (*Macoun.*) Stony Mountain, Man. (*Fletcher.*)

- (1472.) **A. purpurascens**, Linn. Purple Milkweed.
Malden, and islands in Detroit River. (*Maclean*.)

Excluded Species.

- Asclepias obtusifolia**, Michx.
A. variegata, Linn.

I have no authentic record of the discovery of these species and in the absence of specimens, am totally unable to know what species they represent. The latter was said to have been found at Hamilton, Ont., by the late Judge Logie.

392. ACERATES, Ell. (GREEN MILKWEED.)

- (1473.) **A. viridiflora**, Ell.

Asclepias viridiflora, Raf. Hook. Fl. II., 53.

On dry or gravelly soil from Niagara Falls westward to the Rocky Mountains. Head of Lake Erie. (*Goldie*.) About Fort Carlton. (*Richardson*.) On the sand hills near Old Wives Lakes. (*Macoun*.) Wood End, Souris River, 49th parallel. (*Dawson*.)

- Var. **lanceolata**, Gray.

Asclepias viridiflora, Raf. Var. *lanceolata*, Hook. Fl. II., 53.

On the sand beaches of Point Pelee, Lake Erie; also in numerous places in Manitoba and North-west Territories. (*Macoun*.) On a sand beach at Point Edward, foot of Lake Huron. (*J. M. Macoun*.) Banks of the Red River. (*Douglas*.) About Fort Carlton. (*Richardson*.)

- Var. **linearis**, Gray.

This variety has linear leaves and low stems; umbels often solitary. Winnipeg Valley. (*Gray*.) Banks of the Assiniboine River; Pine Creek on sand dunes; and on sand hills at the confluence of the Qu'Appelle and Assiniboine rivers. (*Macoun*.)

LXIV. GENTIANACEÆ. GENTIAN FAMILY.

393. SABBATIA, Adns. (AMERICAN CENTAURY.)

- (1474.) **S. angularis**, Pursh.

Rich soil, western Ontario. (*Gray*.) This species as a Canadian plant is unknown to me.

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394. GENTIANA, Linn. (GENTIAN,)

(1475.) **G. ventricosa**, Griseb. Hook. Fl. II., 65.

Grand Rapids of the Saskatchewan between Cumberland House and Lake Winnipeg. (*Drummond.*)

(1476.) **G. crinita**, Freil.

Vicinity of Quebec and Island of Orleans. (*Thomas.*) Zwicks Island, Belleville, Ont.; Oak Hills, Sidney, Hastings Co., Rice Lake Plains and Presqu'île Point, Lake Ontario. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Moist woods two miles east of London, Ont. (*Saunders.*) Palledeau Islands, northern part of Lake Huron. (*R. Bell.*) Niagara River. Specimens approaching *G. detonsa*. (*David F. Day.*) Roseau River, along the banks of the stream, 49th parallel. (*Dawson.*) Very abundant on grassy prairie three miles north of Livingstone, on Swan River, Lat. 52°. (*Macoun.*) Toronto Island. (*Burgess & Fowler.*)

(1477.) **G. serrata**, Gunner.

G. detonsa, Fries. Hook. Fl. II., 64. Macoun's Cat., No. 1431.

Wet grounds, by streams, and on rocks, Newfoundland. (*Gray.*) Abundant but very short and branching at South-west Point and Salt Lake, Anticosti. (*Macoun.*) Island of Orleans, in the St. Lawrence. (*Thomas.*) On rocks close to Niagara Falls above the cataract; also on the shores of Red Bay, Lake Huron. (*Macoun.*) Niagara River, Navy Island, and Sandwich. (*MacLagan.*) Along the Maitland River near Goderich. (*James Macnab.*) Vicinity of Toronto. (*Fowler.*) Along the south fork of Belly River, 49th parallel. (*Dawson.*) Abundant in the valley of the Bow River from the Blackfoot Crossing to Morley; and along the North Saskatchewan between Fort Pitt and Edmonton. (*Macoun.*) From Fort Carlton on the Saskatchewan to the Rocky Mountains. (*Drummond.*) From Cumberland House to Slave and Bear lakes and northward to the Arctic Sea. (*Richardson.*) Point Barrow to Mackenzie River and Fort Youcon. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(1478.) **G. tenella**, Rottb. Hook. Fl. II., 63.

At Behring's Strait, on the shore of the sea at Kotzebue Sound. (*Chamisso.*) Ounalashka and Kotzebue Sound. (*Rothr. Alask.*)

(1479.) **G. auriculata**, Pall.

Islands between north-eastern Asia and America and possibly on the North-west American coast. (*Gray.*)

(1480.) **G. Amarella**, Linn. Var. **acuta**, Hook. f.

G. acuta, Michx. Hook. Fl. II., 63. Macoun's Cat., No. 1430.

Labrador and Lower Canada to Alaska and southward along the Rocky Mountains to Lat. 49°. (*Gray.*) On flats, Caribou, Labrador. (*Butler.*) South-west Point, and at Jupiter River, Anticosti. (*Macoun.*) At the mouth of the Restigouche, N.B. (*Chalmers.*) Island Falls, mouth of St. John River, N.B. (*Hay.*) Keswick Ridge, N.B. (*G. H. Burnett.*) Coast of Gaspé from Cape Rosier to Ste. Anne des Monts. (*Macoun.*) Trois Pistoles, Q., at the coast. (*D. A. P. Watt.*) Rivière-du-Loup, Q. (*Thomas.*) From the Lake of the Woods (*Macoun.*) across the whole interior to Queen Charlotte Islands. (*Dawson.*) Departure Bay, Vancouver Island. (*Meehan.*) Ounalashka. (*Rothr. Alask.*) At ~~St. Francis~~, Metapedia, N.B. (*Fletcher.*)

Var. **stricta**, Watson.

G. acuta, Michx. Var. *stricta*, Hook. Fl. II., 63.

Frequent on open grassy prairies from Winnipeg westward to the Rocky Mountains. Easily distinguished by its strict habit and usually copious and light colored flowers. (*Macoun.*) Turtle Mountain, 49th parallel. (*Burgess.*)

Var. **tenuis**, Gray.

G. tenuis, Griseb. Hook. Fl. II., 63.

Cumberland House to Bear Lake; also along the Mackenzie River. (*Richardson.*)

(1481.) **G. aurea**, Linn. Hook. Fl. II., 61.

G. Aleutica, Cham. & Schlecht. Hook. Fl. II., 61.

Ounalashka. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(1482.) **G. propinqua**, Richards.

On hillsides at Amour and lowlands at Bonne Espérance, Labrador. (*W. A. Stearns.*) Labrador. (*Gray.*) Coast of Hudson Bay west of York Factory. (*R. Bell.*) Bow River Pass, Rocky Mountains. (*Bourgeau.*) Cumberland House to Bear Lake, and Bear Lake River. (*Richardson.*) Alpine swamps in Rocky Mountains. (*Drummond.*) Kotzebue Sound, Port Clarence, and Norton Sound. (*Rothr. Alask.*)

(1483.) **G. arctophila**, Griseb.

This species has a var. *densiflora* like the preceding, but owing to a paucity of specimens I do not consider it necessary to separate them. The Rocky Mountain specimens are said to be the variety in this case.

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Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*) Rocky Mountains between Lat. 52° - 56° . (*Drummond.*) Arctic Sea coast. (*Richardson.*)

(1484.) ***G. quinqueflora***, Lam.

G. amurelloides, Pursh Fl. I., 186.

Moist hillsides in Ontario. Vicinity of Kingston and Toronto. (*Burgess.*) Hillside, Hamilton Township near Cobourg, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Malden, Ont. (*MacLagan.*) Delaware, Ont. (*McGill Coll. Herb.*)

(1485.) ***G. Douglasiana***, Bong.

Alaska to Oregon. (*Gray.*) In swamps, abundant at Fort MacLoughlin, Millbank Sound, North-west Coast. (*Dr. Tolmie.*) On the island of Sitka. (*Mertens.*) In the marshes of the North-west Coast. (*Scouler.*) Cassiar, northern British Columbia. (*Cowley.*)

(1486.) ***G. humilis***, Stev.

Will likely be found in the Rocky Mountains about Lat. 49° .

(1487.) ***G. prostrata***, Hænke.

Bow River Pass, Rocky Mountains. (*Macoun.*) Rocky Mountains between Lat. 52° - 56° . (*Drummond.*) Bay of Good Hope, Alaska. (*Chamisso.*) Ounalashka and Kotzebue Sound. (*Rothr. Alask.*)

(1488.) ***G. glauca***, Pall.

Higher and northern Rocky Mountains to Kotzebue Sound. (*Gray.*) In the Rocky Mountains between Lat. 52° - 56° . (*Drummond.*) Kiootah-oote-a Lake, B.C. (*Dawson.*) Kotzebue Sound and Wainwright Inlet. (*Rothr. Alask.*)

(1489.) ***G. frigida***, Hænke.

St. Paul, and Shumgin Islands off the north coast of Alaska. (*Gray.*)

(1490.) ***G. calycosa***, Griseb.

In the Rocky or Cascade Mountains, Lat. 49° , B.C. (*Lyll.*)

(1491.) ***G. platypetala***, Griesb. Hook. Fl. II., 58.

On the Island of Sitka, where it was found during the second expedition of Capt. Kotzebue. (*Hooker.*)

(1492.) ***G. sceptrum***, Griseb. Hook. Fl. II., 57.

In the mountains of southern British Columbia. (*Gray.*) In the valley of Pitt River, B.C. (*Hill.*) ^{Saanich} Vancouver Island. (*Cowley.*)

(1493.) **C. Oregana**, Engelm.

Southern boundary of British Columbia, Lat. 49°. (*Lyall*.)

(1494.) **C. affinis**, Griseb. *This is a new sp.*

From Carlton to Edmonton along the Saskatchewan. (*Drummond*.) Valleys of the Rocky Mountains. (*Douglas*.) Common on the western part of the prairie region, and passing into the next to the eastward. (*Macoun*.) Near White Mud River, and west of the Souris in the Missouri Coteau, 49th parallel; slopes of the South Kootanie Pass and North Fork of Old Man River, Rocky Mountains. (*Dawson*.)

(1495.) **C. puberula**, Michx. *This is affinis*

This species is generally confounded with the preceding, but a careful examination of all specimens from east of the 110th meridian, places them under this species. Our most westerly specimens are from 100 miles south of Battleford. (*Macoun*.) Prairie west of Red River. (*Dawson*.) On the Coteau de Missouri, 49th parallel. (*Burgess*.)

1496.) **C. saponaria**, Linn.

Moist woods, western Ontario. (*Gray*.) Fort Erie, Ont. (*David F. Day*.)

(1497.) **C. Andrewsii**, Griseb.

Moist ground along rivers and brooks. Vicinity of Quebec; also, Island of Orleans. (*Thomas*.) St. Andrews and Gloucester, Q. (*McGill Coll. Herb.*) Common on sand by the side of the River Rouge, and shores of lakes and swamps, Ottawa Co., Q. (*D'Urban*.) Near St. Louis dam and several other places near Ottawa. (*Fletcher Fl. Ott.*) Low banks of the Nation River at the crossing of the St. Lawrence Railway; also, banks of the Rideau near Kemptville, Ont. (*Billings*.) Low grounds along the Salmon River at Shannonville, near the Railway Bridge; banks of the Trent at Campbellford; and along the Grand Trunk at Colborne, Ont. (*Macoun*.) Vicinity of Hamilton, Ont. Kingston, Chippewa and Malden, Ont. (*MacLagan*.) Fort Erie, Ont. (*David F. Day*.) Borders of English's Creek, near London, Ont. Low ground, Humber Flats, near Toronto. (*Fowler*.) Abundant at Current River, Thunder Bay, near Port Arthur. (*Macoun*.)

(1498.) **C. alba**, Muhl.

G. ochroleuca, Frœl. Hook. Fl. II., 56.

Low grounds and meadows, western Ontario to Lake Superior. (*Gray*.) Malden, Ont. (*MacLagan*.) Border of a field near Fort

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William, Thunder Bay and sparingly along the north-east coast of Lake Superior and northward to Lake Nipigon; also, at Heely Falls on the Trent, Northumberland Co., Ont. (*Macoun.*) Humber Flats, near Toronto. (*Fowler.*)

(1499.) **C. linearis**, Frœl.

G. saponaria, var. *linearis*, Griseb. Hook. Fl. II., 55.

G. Pneumonanthe, Willd. Pursh Fl. I., 185.

Near Welford Station, Kent Co., N.B. (*Fowler's Cat.*) Nashwaaksis, N.B. (*Moser.*) Quebec, near Beauport. (*Thomas.*) In the neighborhood of Quebec and at Lake St. Charles. (*Sheppard.*) Shewegan Falls, St. Maurice River. (*MacLagan.*) Marsh at Chicken Bay, Lake Huron; also in marshy meadows at Point Edward near Sarnia, Ont. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*)

Var. **lanceolata**, Gray.

Minnesota and along Lake Superior. (*Gray.*) It is probable that it is this form which occurs at Lakes Huron and Superior.

395. PLEUROCYNE, Eschsch.

(1500.) **P. rotata**, Griseb.

Labrador and Hudson Bay to the high north-west coast and Kotzebue Sound. (*Gray.*) On the flats at Caribou, and shores of Esquimaux River, also Bonne Espérance. Labrador. (*Butler.*) Along the coast of Anticosti above Jupiter River. Very abundant in the valley of Little Arm River, Long. 106° west; and margins of ponds west of Edmonton on the Saskatchewan; also, at Tail Creek near Buffalo Lake, Lat. 52°. (*Macoun.*) Between Cumberland House and Hudson Bay. (*Drummond.*) Kotzebue Sound, River Buckland and Arctic Coast. (*Rothr. Alask.*) Newfoundland, Labrador and Mackenzie River. (*McGill Coll. Herb.*) Greenland. (*Hook. Arct. Pl.*)

(1501.) **P. Carinthiaca**, Griseb. Var. **pusilla**, Gray.

Suertia pusilla, Pursh Fl. I., 101.

P. rotata, var. *Americana*, Hook. Fl. II., 66.

Labrador. (*Hooker.*) South-west Point, and mouth of Jupiter River, Anticosti. (*Macoun.*) Rivière-du-Loup, St. Lawrence River, Q. (*Thomas.*) Sea shore at Cacouna, Q. (*L. D. Mignault.*)

396. SWERTIA, Linn.

(1502.) **S. perennis**, Linn. Var. **obtusa**, Griseb.

North-west Coast. (*Menzies*.) Kodiak Island, Alaska. (*Rothr. Alask.*)

397. FRASERA, Walt. (AMERICAN COLUMBO.)

(1503.) **F. Carolinensis**, Walt.

F. Walteri, Michx. Fl. I., 97.

Vicinity of Hamilton, Ont. (*Logie*.) Near Queenston, Ont. (*David F. Day*.) On the slopes of Queenston Heights near the railway. (*Macoun*.) Along the Great Western Railway east of Paris, Ont. (*Geo. Prescott*.)

398. HALENIA, Borckh. (SPURRED GENTIAN.)

(1504.) **H. deflexa**, Griseb.

Swertia corniculata, Michx. Fl. I., 97, not Linn.

Forteau Bay, Labrador. (*Miss Brodie*.) On the hillsides at Amour and the lowlands at Bonne Espérance, Labrador. (*W. E. Stearns*.) Labrador. (*Butler*.) Damp woods and barrens, St. John Co.; and at Restigouche, N.B. (*Fowler's Cat*.) Abundant along the Gaspé coast and on the summit of Mount Albert, Shickshock Mountains. (*Macoun*.) Common at Rivière-du-Loup. (*Thomas*.) Spencer Wood, near Quebec. (*Mrs. Percival*.) Vicinity of Hamilton, Ont. (*Logie*.) Neighborhood of London, Ont. (*Burgess*.) Shore of the Georgian Bay at Collingwood; also, shore of Red Bay, Lake Huron; and very abundant around the north shore of Lake Superior; also around Lake Nipigon. (*Macoun*.) Sault Ste. Marie. (*R. Bell*.) Lake of the Woods. (*Dawson*.) Norway House to Canada. (*Richardson*.) Rocky Mountains. (*Drummond*.) From Lake Manitoba westward through the wooded country to the North Saskatchewan near Edmonton. (*Macoun*.) Abundant at Dalhousie, N.B. (*Fletcher*.)

Var. **Brentoniana**, Gray.

H. Brentoniana, Griseb. Hook. Fl. II., 68.

H. heterantha, Griseb. Hook. Fl. II., 68.

Newfoundland. (*Dr. Morrison*.) South-west Point, Anticosti, and a few other places on the island. (*Macoun*.) Harbor Grace, Newfoundland. (*McGill Coll. Herb.*)

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399. BARTONIA, Muhl.(1505.) **B. tenella**, Muhl.*Centaurella autumnalis*, Pursh Fl. I., 100.Open woods, Newfoundland. (*Gray.*)**400. MENYANTHES, Linn. (BUCKBEAN.)**(1506.) **M. trifoliata**, Linn.

Quite common in bogs, swamps and slow flowing streams from Labrador, Newfoundland, Anticosti, Nova Scotia and New Brunswick, westward to the Pacific and northward to the Mackenzie, Ounalashka and Sitka. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(1507.) **M. Crista-galli**, Menzies.*Villarsia Crista-galli*, Griseb. Hook. Fl. II., 70.

Marshy ground, coast of British Columbia to Alaska. (*Gray.*) Port Edgcombe. (*Menzies.*) Sitka. (*Rothr. Alask.*)

401. LIMNANTHEMUM, Gmelin. (FLOATING HEART.)(1508.) **L. lacunosum**, Griseb.*Villarsia lacunosa*, Vent. Pursh Fl. I., 139.

Shallow ponds and lakes not common. At the outlet of a small lake, two miles from North Sydney, Cape Breton. (*Macoun.*) Lakes between Windsor and Halifax. (*Rev. J. B. Uniacke.*) Several localities in Kings Co., N.B. (*Brittain.*) St. Stephen, N.B. (*Vroom.*) Abundant in a lake near the residence of Mr. King, Salmon River, Queen's Co., N.B. (*Hay.*) Very abundant in the Bushkong lakes; also in Cushogg and St. Norah's lakes, Victoria Co., Ont. (*Macoun.*) Lake Joseph, Muskoka, Ont. (*Burgess.*) Ste. Anne's near Montreal. (*Mrs. Girdwood.*)

LXV. POLEMONIACEÆ. POLEMONIUM FAMILY.

402. PHLOX, Linn. (PHLOX.)(1509.) **P. pilosa**, Linn.*Phlox aristata*, Michx. Palliser's Report, page 259.

Dry sandy woods, western Ontario and west to the Saskatchewan.

(Gray.) ? Malden, Ont. (*MacLagan.*) Dry, sandy woods near Amherstburgh, Ont. (*Macoun.*) Vicinity of Winnipeg. (*Bourgeau.*)

(1510.) **P. divaricata**, Linn. Blue Phlox.

Damp woods, quite common in western Ontario. At Casselman on the Canada Atlantic Railway, 20 miles from Ottawa. (*Fletcher.*) Rocky woodlands, Carleton Place near Ottawa. (*Macoun.*) Rocky woodlands west of Brockville, abundant. (*Billings.*) Abundant from Kingston westward to Owen Sound in rich woods.

(1511.) **P. subulata**, Linn. Ground or Moss Pink.

Dry sandy hills or woods, western Ontario. Sand hills near Simcoe, Norfolk Co. (*Dr. Nicholl.*) Near Cayuga, Ont. (*Mr. Wilkins.*)

(1512.) **P. Richardsonii**, Hook. Fl. II., 73.

Arctic Sea coast, July, 1826. (*Richardson.*) West of the Mackenzie. (*Capt. Pullen.*)

(1513.) **P. Hoodii**, Richards.

Sandy plains and hills of the Saskatchewan from Fort Carlton to the Rocky Mountains. (*Drummond.*) Eagle and Red Deer Hills on the Saskatchewan, abundant. (*Douglas.*) On ridges, Moose Mountain. (*J. M. Macoun, C. P. R. Coll.*) Dry gravelly knolls and ridges from Manitoba to the Rocky Mountains in the northern part of the prairie region. (*Macoun.*)

(1514.) **P. canescens**, Torr. & Gray.

Turtle Mountain, 49th parallel. (*Dawson.*) On the more southern prairies and Cypress Hills. (*Macoun.*) This species and the preceding flower early in May and have white flowers.

(1515.) **P. Douglasii**, Hook.

On the Rocky Mountains, near the confines of perpetual snow. (*Douglas.*) Wigwam River, Kootanie Valley, Rocky Mountains. (*Dawson.*)

Var. **diffusa**, Gray.

Borders of British Columbia. (*Gray.*) Coldwater River, Cascade Mountains above Hope, B.C. (*Dawson.*) The calyx of this form is covered with long cobwebby hairs, and is unlike the figure in Hooker which is identical with the specimens from Wigwam River.

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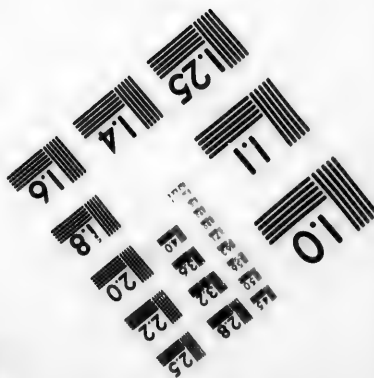
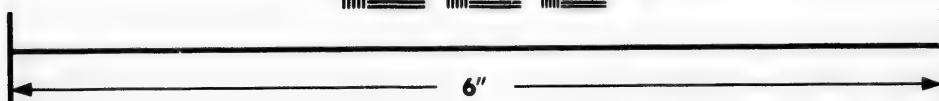
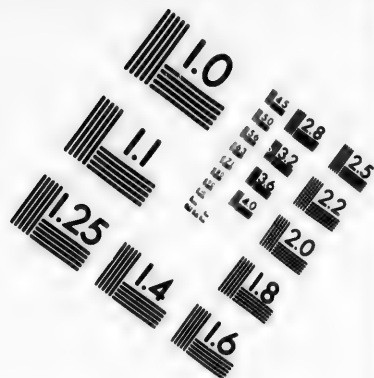
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(1516.) **P. Sibirica**, Linn.Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)(1517.) **P. longifolia**, Nutt.*P. speciosa*, var. β . Hook. Fl. II., 72.Southern border of British Columbia. (*Gray.*) Sub-alpine range of the Rocky Mountains near the margin of perpetual snow. (*Douglas.*)(1518.) **P. linearifolia**, Gray.*P. speciosa*, var. α . Hook. Fl. II., 72.In the Similkameen Valley, B.C. (*Dawson.*) The specimens are perfectly glabrous and the leaves linear and very narrow.(1519.) **P. speciosa**, Pursh.Along the southern border of British Columbia. (*Bot. Calif. I.*, 486.)403. **COLLOMIA**, Nutt.(1520.) **C. linearis**, Nutt.

On the sands at the mouth of Eel River, Restigouche Co.; also on the high rocky hill towards Dalhousie, N.B. (*Fowler's Cat. & Fletcher.*) From Fort Francis on Rainy River across the prairies and westward to Victoria, Vancouver Island. (*Macoun.*) From Lake Winnipeg across the Rocky Mountains to the Columbia. (*Douglas.*) From the Saskatchewan to Fort Franklin, Lat. 64°. (*Richardson.*) Red River prairie and westward along the 49th parallel to the Rocky Mountains. (*Dawson.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(1521.) **C. gracilis**, Dougl.

Abundant on dry hills in the vicinity of Victoria, Vancouver Island. (*Macoun & Hill.*)

(1522.) **C. heterophylla**, Hook.Southern part of British Columbia. (*Gray.*)404. **GILIA**, Ruiz. & Pav.(1523.) **G. liniflora**, Benth. Var. **pharnaceoides**, Gray.*G. pharnaceoides*, Benth. Hook. Fl. II., 74.Southern border of British Columbia. (*Gray.*)

(1524) **G. tenella**, Benth.

Quite common in spring on gravelly hillsides near Victoria, Vancouver Island. (*Macoun.*)

(1525.) **G. squarrosa**, Hook. & Arn.

Navarretia pungens, Benth. Hook. Fl. II., 75.

On dry or gravelly slopes, vicinity of Victoria, Vancouver Island. (*Dawson & Fletcher.*)

(1526.) **G. intertexta**, Steud.

Navarretia intertexta, Benth. Hook. Fl. II., 75.

G. minima, Gray. Dawson, Bound. Sur. Rep., page 370.

Vicinity of Wood Mountain, 49th parallel. (*Dawson.*) On arid soil north of the Cypress Hills and at the Red Deer Lakes west of the Elbow of South Saskatchewan. (*Macoun.*)

(1527.) **G. aggregata**, Spreng.

G. pulchella, Dougl. Hook. Fl. II., 74.

Cantua aggregata, Pursh Fl. I., 147.

On dry benches along Whip Saw Creek, near its confluence with the Similkameen River, B.C. (*Dawson.*)

(1528.) **G. minutiflora**, Benth.(?)

In the dry interior of British Columbia, between Spence's Bridge and Cache Creek on the Thompson River. (*Fletcher & Hill.*)

(1529.) **G. capitata**, Dougl.

Cantua parviflora, Pursh Fl. II., 730.

Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(1530.) **G. inconspicua**, Dougl.

Cantua parviflora, Pursh Fl. II., 730.

On dry hillsides, southern British Columbia. (*Gray.*)

405. POLEMONIUM, Linn. (GREEK VALERIAN.)(1531.) **P. confertum**, Gray.

Alpine region of the Rocky Mountains about Lat. 49°. (*Gray.*) Summit of South Kootanie Pass; and western summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*)

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(1532.) **P. humile**, Willd.*P. caeruleum*, var. *humile*, Hook. Fl. II., 71.

From Lat. 66° to the Arctic Sea coast, in deep sand. (*Richardson*.) Arctic coast to St. Paul's and the Shumagin Islands. (*Gray*.) West of the Mackenzie River. (*Dease*.) Lake Lindeman, source of the Youcon River, Lat. 60°. (*Schwatka*.)

Var. **pulchellum**, Gray.*P. caeruleum*, var. *pulcherrimum*, Hook. Fl. II., 71.*P. pulcherrimum*, Hook. Bot. Mag. t., 2979.

Summit of South Kootanie Pass, Lat. 49°; also, western summit of the North Kootanie Pass, Rocky Mountains. (*Dawson*.) In the bed and along the slopes of Blackwater River at the crossing of the Telegraph Trail, B.C. (*Macoun*.)

(1533.) **P. caeruleum**, Linn.*P. caeruleum*, var. *vulgare*, Hook. Fl. II., 71.

Canada. (*Sheppard*.) Along the base of the Rocky Mountains. (*Drummond*.) Arctic Sea coast. (*Richardson*.) Eliguck Lake, northern British Columbia. (*Dawson*.) Norton Sound to Point Barrow; islands of St. George, Ounalashka and Chamisso. (*Rothr. Alaska*.)

Var. **acutiflorum**, Ledeb.High north-west coast and Aleutian Islands. (*Gray*.)(1534.) **P. micranthum**, Benth.

Damp grassy places, above Boston Bar, on the Wagon Road, along the Fraser, B.C. (*Macoun*.) Vicinity of Victoria, Vancouver Island. (*Fletcher*.)

LXVI. HYDROPHYLLACEÆ. WATER-LEAF FAMILY.

406. **HYDROPHYLLUM**, Linn. (WATER-LEAF.)(1535.) **H. capitatum**, Dougl.

On gravelly hillsides, western summit of the North Kootanie Pass; also in the Cascade Mountains on Skagit River, B.C. (*Dawson*.)

(1536.) **H. Virginicum**, Linn.

Woodfield, near Quebec, 1820. (*Sheppard*.) Nicolet, Montreal and Eastern Townships. (*MacLagan*.) Beauharnois Co., Q. (*McGill Coll.*)

Herb.) Common in rich woods from the River Ottawa westward throughout Ontario to the Georgian Bay. (*Macoun.*) North-west coast of America. (*Scouler.*) Washington Territory and north to Alaska. (*Gray.*)

(1537.) **H. Canadense**, Linn.

Rich damp woods, western Ontario. Vicinity of Hamilton, Ont. (*Logie.*) Neighborhood of London, Ont. (*Burgess.*) Woods two miles west of Collingwood; also in woods at Jones' Falls, and along the road leading to Sydenham Falls, Owen Sound. (*Macoun.*) Rich, woody ravine, Sable, Ont. (*McGill Coll. Herb.*)

(1538.) **H. appendiculatum**, Michx.

Damp woodlands, western Ontario. Abundant in thickets on Pelee Point, Lake Erie. (*Macoun.*) Malden, Ont. (*MacLagan.*) Vicinity of Cove and elsewhere, around London, Ont. (*Burgess & Saunders.*)

407. NEMOPHILA, Nutt. (NEMOPHILA.)

(1539.) **N. parviflora**, Dougl.

N. pedunculata, Hook. Fl. II., 79.

Two forms of this species are common in early spring in the vicinity of Victoria, Vancouver Island. The taller form is identical with specimens from Washington Territory, but the smaller, which has been raised from seed by Mr. Fletcher is very much branched, and lies prostrate on the ground both when cultivated and in a wild state. I very much doubt their identity.

408. ELLISIA, Linn. (ELLISIA.)

(1540.) **E. Nyctelea**, Linn.

In thickets where the fire has run through in the southern part of the prairie region. Eastern crossing of the Souris River, 49th parallel. (*Burgess.*) In thickets at the base of the Dirt Hills; at the eastern end of the Cypress Hills and at the head of the Qu'Appelle River and "River that Turns." (*Macoun.*) Along the Saskatchewan. (*Bourgeau.*) Source of the White Mud River, Cypress Hills and near Maple Creek Station, C.P.R., N.W.T. (*J. M. Macoun.*)

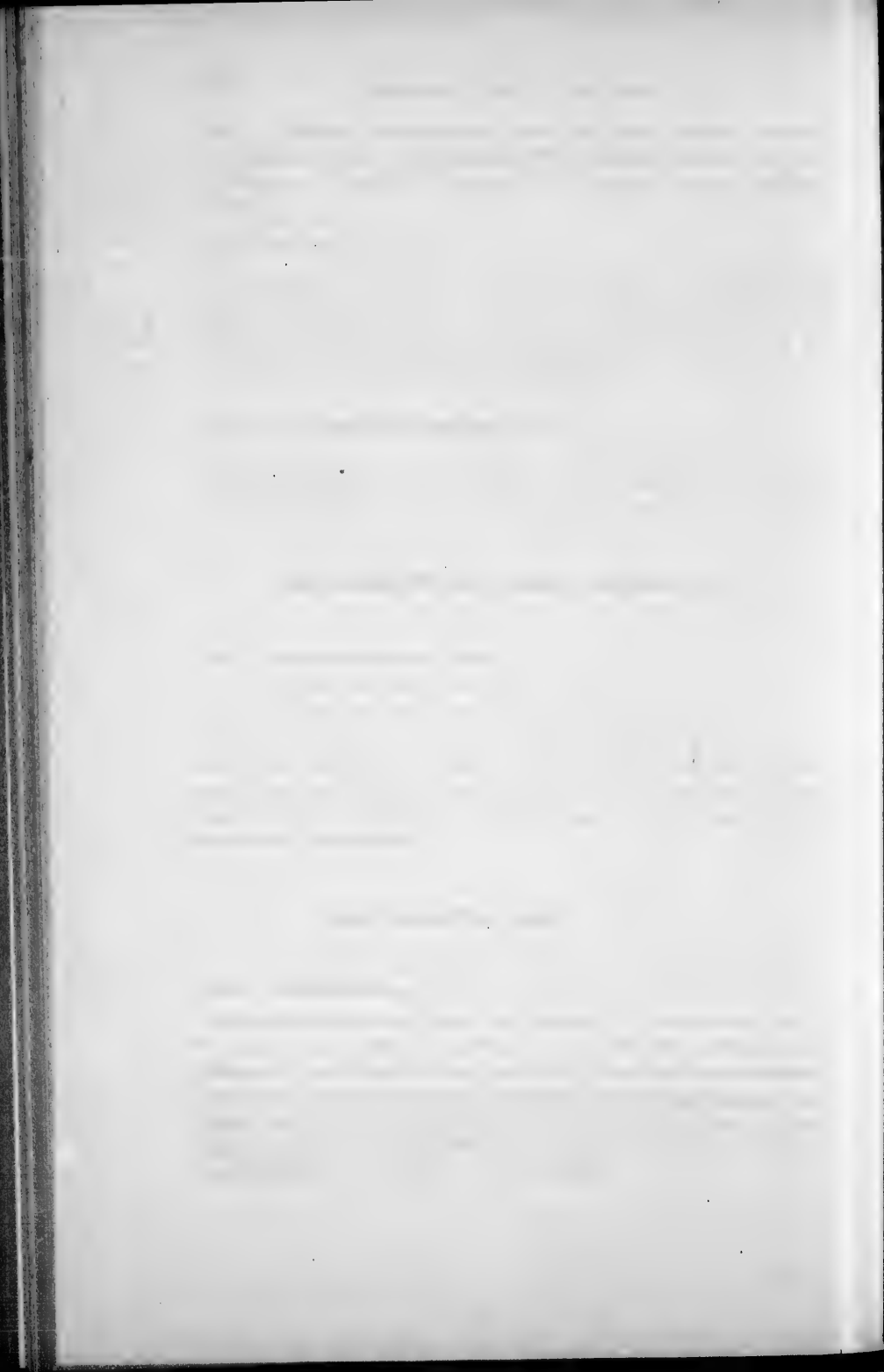
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409. PHACELIA, Juss.

(1541.) *P. circolnata*, Jacq. f.*P. hastata*, Dougl. Hook. Fl. II., 80.*P. heterophylla*, Pursh Fl. I., 140.

Dry gravelly hills and mountains. South Kootanie Pass, and on gravel slopes at Michell Creek, Crow Nest Pass, Rocky Mountains; also at Cornwall's, near Cache Creek, B.C. (*Dawson*.) On gravelly slopes along the Thompson River between Lytton and Cache Creek. (*Macoun & Fletcher*.)

(1542.) *P. sericea*, Gray.*Eutoca sericea*, Lehm. Hook. Fl. II., 79.

Sandy debris of the Rocky Mountains, Lat. 52-56°. (*Drummond*.) Borders of British Columbia. (*Gray*.) On the lower ledges of the Rocky Mountains, Bow River Pass. (*Macoun*.)

Var. *Lyalii*, Gray.

Rocky Mountains in Lat. 49°, at 6-7,000 feet. (*Lyall*.) Summit of South Kootanie Pass, 49th parallel; also on the western summit of the North Kootanie Pass, Rocky Mountains. (*Dawson*.)

(1543.) *P. Franklinii*, Gray.*Eutoca Franklinii*, R. Br. Hook. Fl. II., 79.

Shores of Lake Superior. (*Gray*.) On dry sandy hillsides, 20 miles up the Kaministiquia, not common; also, abundant on burnt hills left bank of Nipigon River, four miles below Camp Alexander. (*Macoun*.) From the Saskatchewan to English and Bear Lake rivers. (*Richardson*.) In burnt woods from the Grand Rapid of the Saskatchewan to the Rocky Mountains. (*Drummond*.) Eliguck Lake, northern British Columbia. (*Dawson*.)

(1544.) *P. Menziesii*, Torr.*Eutoca Menziesii*, Benth. Hook. Fl. II., 79.*Hydrophyllum lineare*, Pursh Fl. I., 134.

Open gravelly or very dry soil. On dry ridges, Milk River, 49th parallel; along the Flat Head River, and up the Nicola Valley, B.C. (*Dawson*.) On dry hillsides along the Thompson River above Spence's Bridge, B.C. (*Macoun & Hill*.) From Lytton to Spence's Bridge, B.C. (*Fletcher*.)

410. ROMANZOFFIA, Cham.

(1545.) **R. Unalaschkensis**, Cham.*Saxifraga nutans*, Don. Hook. Fl. L., 245.

Unalashka and adjacent islands. (Gray.)

(1546.) **R. Sitchensis**, Bongard.

Sitka. (Hook. Arct. Pl.) Sitka, southward along the coast ranges. (Gray.)

LXVII. BORRAGINACEÆ. BORAGE FAMILY.

411. HELIOTROPIUM, Linn. (HELIOTROPE.)

(1547.) **H. Curassavicum**, Linn.

Abundant on the margins of saline or brackish lakes in the southwestern part of the prairie region. On the borders of Gull Lake, Island Lake, and Stinking Lake north of the Cypress Hills; also along Hand Hill Lake and other lakes eastward towards the Saskatchewan. (Macoun.)

412. PECTOCARYA, DC.

(1548.) **P. penicillata**, A. DC.*Cynoglossum penicillatum*, Hook. & Arn. Bot. Beech, 371.

9/ On very dry soil at Lytton, B.C. The particular spot is between the Wagon Road and the river at the Forks of the Fraser and Thompson. (Macoun.)

413. CYNOCLOSSUM, Linn. (HOUNDSTONGUE.)

(1549.) **C. officinale**, Linn. Common Houndstongue. Sheep Bur.

Sparingly introduced in eastern Quebec, but becoming common at Montreal. In Ontario it has become a pest. Along roadsides, in pastures and vacant lots and on the borders of woods which have lately been burned, it takes the place of everything else and sheep running at large have their wool filled with its hooked fruit.

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(1550.) **C. Virginicum**, Linn. Wild Comfrey.*C. amplexicaule*, Michx. Fl. I., 132.

Petitcodiac, N.B. (*Brittain*.) In woods in the vicinity of Gaspé Basin, Q. (*Macoun*.) Montreal Mountain. (*Holmes*.) Calamut and Belœil Mountain, Q. (*McGill Coll. Herb.*) King's Mountain, Chelsea, and near Green's Creek, Ottawa. (*Fletcher*.) Sandy woods, Rice Lake Plains, near Castleton; a little west of Gerow's Tavern, Murray, Northumberland Co., and near Marmora Village, Hastings Co., Ont. (*Macoun*.) Vicinity of Galt, Ont. (*Miss Crooks*.) Very rare in the neighborhood of London, Ont. (*Burgess & Saunders*.) North shore of Lake Superior. (*Agassiz*.) On top of a high clay bank, four miles up the Kaministiquia River, Thunder Bay; also, abundant on the Pine Portage, Nipigon River. (*Macoun*.) Lake Huron to the Rocky Mountains. (*Drummond & Dr. Todd*.) The western range is doubtful.

(1551.) **C. grande**, Dougl. Hook. Fl. II., 85.

Thick woods near the southern boundary of British Columbia. (*Cowley*.) Shady woods, North-west Coast. (*Douglas*.)

(1552.) **C. ciliatum**, Dougl. Hook. Fl. II., 85.

Dry banks of mountain streams, Little Falls of the Columbia and upwards to the Rocky Mountains. (*Douglas*.) To be looked for in the Rocky Mountains.

414. ECHINOSPERMUM, Swartz. (STICKSEED.)(1553.) **E. floribundum**, Lehm.

Lake Pentanguishene (Georgian Bay) to the Rocky Mountains. (*Drummond*.) Lake Winnipeg to British Columbia. (*Gray*.) Red River, Turtle and Wood Mountains, 49th parallel. (*Dawson*.) Souris Plain, and at the source of the White Mud River, Cypress Hills. (*J. M. Macoun, C. P. R. Coll.*) Thickets at the Red Deer Lakes west of the Elbow of the South Saskatchewan, and in thickets at the eastern end of the Cypress Hills; also near McLeod's Lake, northern British Columbia, Lat. 55°. (*Macoun*.) In thickets at Spence's Bridge, B.C. (*Hill*.)

(1554.) **E. deflexum**, Lehm.

Saskatchewan and Winnipeg Valley. (*Gray*.) Cumberland House on the Saskatchewan. (*Drummond*.) Lower slopes of the South Kootanie Pass, 49th parallel; western summit of the North Kootanie

Pass, Rocky Mountains. (*Dawson.*) Turtle Mountain, 49th parallel. (*Burgess.*) Thickets along Maple Creek, Cypress Hills. (*J. M. Macoun.*)

(1555.) **E. Virginicum**, Lehm.

Cynoglossum Morisoni, DC. Gray, Man. 366. Macoun's Cat., No. 1375.

Myosotis Virginiana, Linn. Pursh Fl. I., 134.

Borders of woods lately burnt over and in open thickets. Abundant from the vicinity of Quebec to the north shore of Lake Superior at Mamainse. (*Macoun.*) Canada to the Saskatchewan. (*Drummond.*)

(1556.) **E. Lappula**, Lehm. Small Sheep Bur.

Myosotis Lappula, Willd. Pursh Fl. I., 134.

Extensively naturalized throughout Ontario and a very troublesome weed in vacant lots in the vicinity of towns and villages. It is curious that with the exception of a few plants observed by myself at Truro, Nova Scotia, and a few detected at Eel River, Restigouche Co., N.B., by Prof. Fowler, neither it nor the Houndstongue has been noticed in the Maritime provinces. We have it, however, from the North-West and British Columbia, where it will soon establish itself.

(1557.) **E. Redowskii**, Lehm. Var. **occidentale**, Watson.

E. patulum, Lehm. Hook. Fl. II., 84.

Cumberland House to Bear Lake. (*Richardson.*) Common on dry gravelly places in the prairie region from Manitoba westward. (*Macoun.*) Pembina Mountain, 49th parallel. (*Burgess.*) Common in the vicinity of Maple Creek, Cypress Hills. (*J. M. Macoun.*)

Var. **cupulatum**, Gray.

Abundant in the dry interior of British Columbia, from above Yale to C  che Creek and Kamloops. (*Macoun, Dawson & Hill.*) Dry hills vicinity of Victoria, Vancouver Island. (*Fletcher.*)

415. ERITRICHIMUM, Schrad.

(1558.) **E. nanum**, Schrader. Var. **aretioides**, Herder.

E. aretioides, DC. Prodr. X., 125.

North-west Coast and islands. (*Gray.*) Cape Lisburne and island of St. Lawrence. (*Rothr. Alask.*)

Var. **Chamissonis**, Herder.

E. Chamissonis, DC. Prodr. X., 125.

Island of St. Paul, off the coast of Alaska. (*Gray.*)

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(1559.) **E. plebeium**, A. DC.*Lithospermum plebeium*, Cham & Schlecht. in Linn IX., 446.Ounalashka. (*Rothr. Alask.*) Aleutian Islands. (*Gray.*)(1560.) **E. Californicum**, DC.*Myosotis Californica*, Fisch & Meyer. 1835.

On places where water lies in small pools in the spring; dry open prairie west of Hand Hills and north of the Cypress Hills; also near Old Wives Lakes. (*Macoun.*) Maple Creek, near Cypress Hills. (*J. M. Macoun.*) Vicinity of Victoria, Vancouver Island. (*Macoun & Fletcher.*)

(1561.) **E. Chorisianum**, DC.*Myosotis Chorisiana*, Cham. & Schlecht. Hook. Fl. II., 83.Vicinity of Victoria, Vancouver Island. (*Macoun & Fletcher.*)(1562.) **E. fulvum**, A. DC.*Myosotis fulva*, Hook. Fl. II., 83.

In ditches in the vicinity of Victoria, Vancouver Island. (*Macoun & Dawson.*) Câche Creek, B.C. (*Hill.*)

(1563.) **E. tenellum**, Gray.*E. fulvum*, Watson, Bot. King, 243.

British Columbia. (*Gray.*) It is quite possible that this species and the preceding are the same, but without better specimens I cannot determine their identity.

(1564.) **E. leiocarpum**, Watson.*Myosotis flaccida*, Dougl. Hook. Fl. II., 82.

Dry soil where water stands in the spring along the Red Deer River at the Hand Hills; also on dry soil north of the Cypress Hills. (*Macoun.*) Dry ground interior of British Columbia. (*Hill & Fletcher.*)

(1565.) **E. crassisepalum**, Torr. & Gray.

Nebraska to the Saskatchewan. (*Gray.*) I have never seen this species.

(1566.) **E. glomeratum**, DC.*Myosotis glomerata* Nutt. Hook. Fl. II., 82.*Cynoglossum glomeratum*, Pursh Fl. II., 726.

Dry gravelly hills and tops of ridges from Brandon westward across

the prairie region. (*Macoun.*) Hill of the Murdered Scout and westward along the 49th parallel to the Rocky Mountains, and abundant on dry plains along Old Man River west of Fort McLeod. (*Dawson.*) From Moose Jaw westward to Medicine Hat along the C. P. R. ; also abundant in the Cypress Hills along the sides of coulees. (*J. M. Macoun.*) About Fort Carlton, on the Saskatchewan. (*Richardson.*) The leaves vary very much in old specimens, but the nutlets are never smooth.

Var. humile, Gray.

Rocky Mountains along the 49th parallel at an altitude of 8,000 feet. (*Gray.*)

(1567.) **E. leucophæum, A. DC.**

Myosotis leucophæa, Dougl.

British Columbia. (*Gray.*) Probably along the southern boundary.

416. AMSINCKIA, Lehm.

(1568.) **A. intermedia, Fisch. & Meyer.**

Echium Menziesii, Lehm. Macoun's Cat., No. 1378.

Dry gravelly hillsides at Victoria, Vancouver Island. (*Macoun & Dawson.*)

(1569.) **A. lycopsoides, Lehm. Var. bracteosa, Gray.**

Lithospermum lycopsoides, Lehm. Hook. Fl. II., 89.

Vicinity of Victoria, along the coast of Vancouver Island. Apparently quite common. (*Macoun & Fletcher.*)

417. MERTENSIA, Roth. (SMOOTH LUNGWORT.)

(1570.) **M. maritima, Don. Sea Lungwort.**

Lithospermum maritimum, Lehm. Hook. Fl. II., 86.

Pulmonaria parviflora, Pursh Fl. I., 131.

Gravelly beaches along the sea shore of our Atlantic coast, Gulf of St. Lawrence and Hudson Bay and westward at various points on the Arctic Coast to the Pacific and southward on sea beaches to Lat. 49°.

(1571.) **M. Virginica, DC.**

Pulmonaria Virginica, Linn. Pursh Fl. I., 130.

Alluvial banks. Point Albino at the foot of Lake Erie, Ont. (*David F. Day.*)

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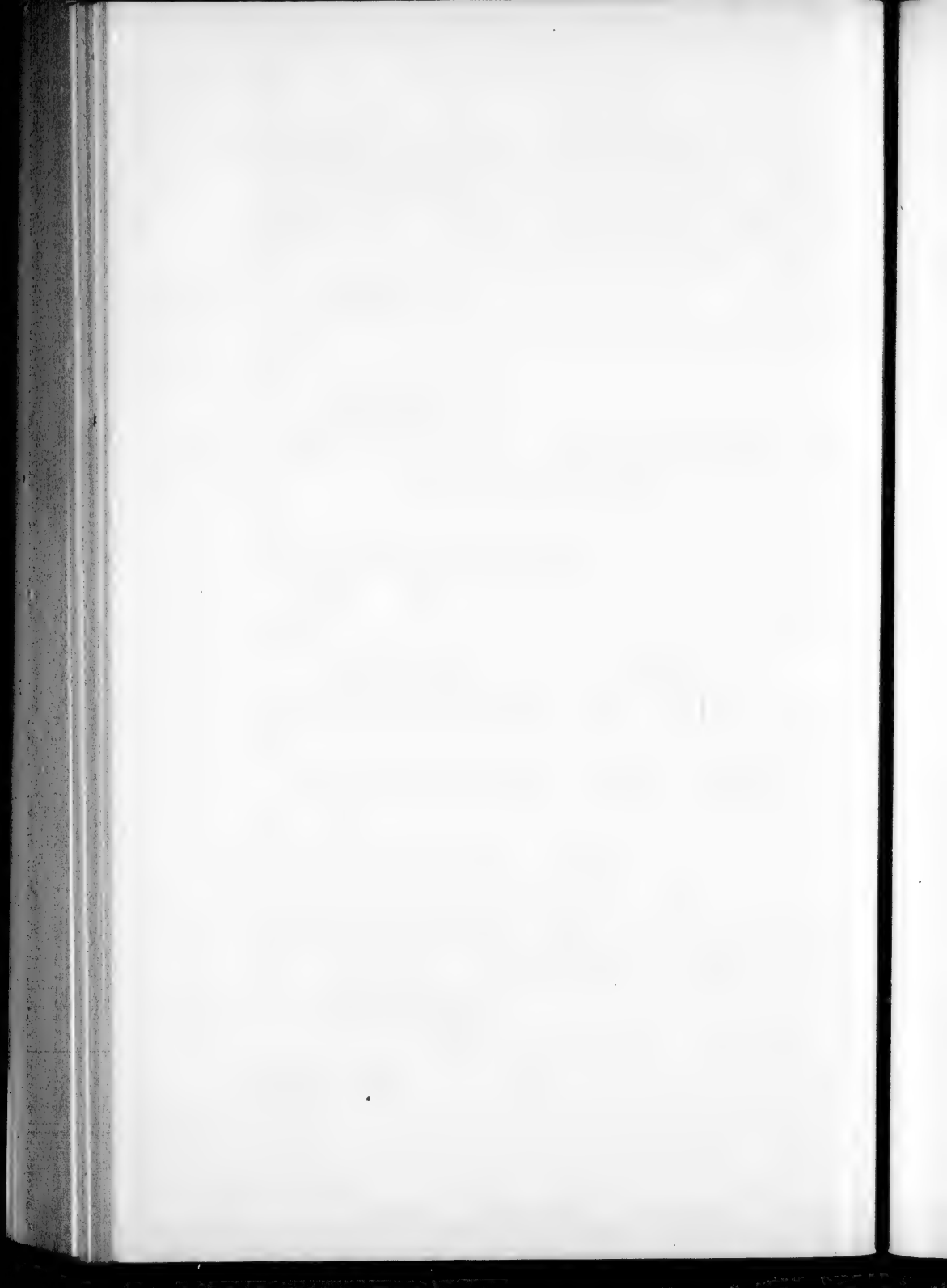
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(1572.) **M. oblongifolia**, Don.*Lithospermum marginatum*, Lehm. Hook. Fl. II., 86.

Mountains of Montana to the borders of British Columbia. (Gray.)

(1573.) **M. Sibirica**, Don.*Lithospermum denticulatum*, Lehm. Hook. Fl. II., 87.*Pulmonaria Sibirica*, Pursh Fl. II., 729.*Mertensia ciliata*, Don. DC. Prodr. X., 92.

Kotzebue Sound. (Rothr. Alask.) Doubtless on the mountains of British Columbia.

Var. **Drummondii**, Gray.*Lithospermum Drummondii*, Lehm. Hook. Fl. II., 86.*Mertensia Drummondii*, Don. Syst. IV., 319.

Arctic seashore. (Richardson.)

(1574.) **M. paniculata**, Don.*M. pilosa*, DC. X., 92. Agassiz, Lake Superior.*Lithospermum paniculatum*, Lehm. Hook. Fl. II., 87.*L. corymbosum*, Lehm. Hook. Fl. II., 87.*Pulmonaria paniculata*, Ait. Pursh Fl. I., 131.

Very abundant around Thunder Bay and at many points on the shores of Lake Superior. (Macoun & Burgess.) From Fort William to the Rocky Mountains. (Drummond.) In woods along Lakes Manitoba and Winnipegosis, and up the Red Deer River, Lat. 53°. (Macoun.) West coast of Lake Winnipeg. (Capt. Back.) East side of Lake Winnipeg at Observation Point. (J. M. Macoun.) North Fork of Old Man River, Rocky Mountains; also in the Pine Pass, Lat. 55°. (Dawson.) Saskatchewan to Hudson Bay and westward to Bear Lake (Richardson.) York Factory and up the Nelson River; also, Echisnamish River to Oxford House. (R. Bell.) Kotzebue Sound and Fort Youcon. (Rothr. Alask.) Lake Lindeman, source of the Youcon River. (Schwatka.)

(1575.) **M. lanceolata**, DC.*Pulmonaria lanceolata*, Pursh Fl. II., 729.*Mertensia alpina*, Gray, in Am. Journ. Sci., in part.

Hillsides from Dakota to Wyoming. (Gray.) Wood Mountain, 49th parallel. (Burgess.) Souris Plain near the 49th parallel. (Creelman, C. P. R. Coll.)

418. MYOSOTIS, Linn. (FORGET-ME-NOT.)**(1576.) *M. laxa*, Lehm.***M. palustris*, var. *micrantha*, Hook. Fl. II., 81.*M. caespitosa*, var. *laxa*, DC. Prodr. X., 105.*M. palustris*, var. *laxa*, Gray, Man. Ed. V., 365. Macoun's Cat., No. 1363.

Abundant in ditches and small brooks. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) Near Halifax, N.S. (*Lawson.*) Windsor, N.S. (*How.*) Pictou, N.S. (*McKay.*) Kingston, N.S. (*Macoun.*) In wet ditches at Point Le Nim, Restigouche Co., N.B. (*Fowler's Cat.*) In ditches near Matane, Lower St. Lawrence. (*Macoun.*) In ditches at Rivière-du-Loup, Q. (*Thomas.*) Knowlton, Eastern Townships, Q. (*McGill Coll. Herb.*) In ditches around Belleville, quite common; also on both sides of the Bay of Quinte. (*Macoun.*) Chippawa and Thorold. (*MacLagan.*) Wet places, Hamilton, Niagara Falls and London. (*Burgess.*) Wet places at Hamilton, Ont. (*Logie.*) Near Port Colborne, Ont. (*David F. Day.*) Vicinity of Toronto. (*Fowler.*)

(1577.) *M. palustris*, With.

In wet ground, probably introduced. (*Gray.*) Vicinity of Halifax, N.S. (*Lawson & Sommers.*) Windsor, N.S. (*How.*) Dalhousie, N.B.; also Ladner's Landing on the Lower Fraser, B.C. (*Fletcher.*)

(1578.) *M. sylvatica*, Hoffm. Var. *alpestris*, Koch.*M. alpestris*, Lehm. Hook. Fl. II., 81.

Summit of the South Kootanie Pass; also the eastern summit of the North Kootanie Pass; and at the summit of the Pine River Pass, Lat. 55°. (*Dawson.*) Common in the Rocky Mountains, between Lat. 52°-56°. (*Drummond.*) Arctic seashore. (*Richardson.*) Mackenzie River, near Fort Simpson, Lat. 62° 30'. (*McGill Coll. Herb.*) Cape Lisburne and Arctic coast. (*Rothr. Alaska.*) West of Mackenzie River, Lat. 71°, Long. 154° west. (*Dease.*)

(1579.) *M. arvensis*, Hoffm.

Fields in low grounds, New Brunswick, perhaps not native. (*Gray.*) Parrsboro', Cumberland Co., N.S. (*How.*) On waste heaps at Bedford, N.S. (*Macoun.*) Spreading from a garden at Bass River, Kent Co., N.B. (*Fowler's Cat.*) St. Andrews, N.B. (*Vroom.*) Along roadsides at London and Parry Sound, Georgian Bay, Lake Huron. (*Burgess.*) Certainly introduced in Ontario.

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(1580.) **M. verna**, Nutt.

Myosotis stricta, Gray, Man. Ed. I., not Link.

Very common on dry rocky ground on both sides of the Bay of Quinte, at Ox Point and Massassaga Point; also on Gibson's Mountain, four miles from the Ferry House, opposite Belleville, Ont. (*Macoun.*) Malden, Ont. (*MacLagan.*)

Var. **macrosperma**, Chapm.

M. versicolor, Lehm. Hook. Fl. II., 81.

On dry gravelly hillsides in the vicinity of Victoria, Vancouver Island. (*Macoun.*) Near Cache Creek, B.C. A very small form. (*Hill.*)

419. LITHOSPERMUM, Linn. (GROMWELL.)(1581.) **L. arvense**, Linn. Corn Gromwell.

Naturalized in waste grounds and cultivated fields amongst wheat; also spreading along railways. Apparently unknown in the eastern provinces, but abundant from Montreal westward throughout Ontario.

(1582.) **L. officinale**, Linn.

Naturalized by roadsides and in old pasture fields and on commons; growing in clumps. Montreal and St. Rémi and numerous places around Montreal, abundant. (*McGill Coll. Herb.*) Fraserville, Q. (*Thomas.*) Frequent by roadsides and in cities and towns throughout Ontario.

(1583.) **L. latifolium**, Michx.

Open ground and borders of thickets, western Ontario. (*Gray.*) Bois Blanc and other islands in Detroit River. (*MacLagan.*) Alluvial flats along the River Thames at London, Ont. (*Burgess.*)

(1584.) **L. pilosum**, Nutt.

L. rudérale, Dougl. Hook. Fl. II., 89.

On dry gravelly hillsides. Ridges north of Cypress Hills; and at Fossil Coulee, Milk River Ridge, south east of Fort McLeod. (*Dawson.*) Dry-gravelly hillsides near Spence's Bridge, B.C. (*Macoun & Hill.*) The British Columbia specimens are much less hairy than the eastern ones and in this respect agree with those from California.

(1585.) **L. canescens**, Lehm. Puccoon of the Indians. (Gray.)*Batschia canescens*, Michx. Fl. I., 130.*L. sericeum*, Lehm. Hook. Fl. II., 88.

Plains and open sandy woods. On the sands of Wellington Beach, Prince Edward Co., Ont.; and very abundant along the Grand Trunk Railway near Sarnia. (Macoun.) Malden and Sandwich, Ont. (Mac-lagan.) Sandy soil near London, Ont. (Burgess.) Common on the Burford Plains, Brant Co., Ont. (Yates.) Two miles below Kaka-beka Falls on the Kaministiquia River; at the mouth of Rainy River, and westward across the prairie to the South Saskatchewan. Abundant in Manitoba and especially south of Brandon on the Souris Plain. (Macoun.) Red River Prairie and Pembina Mountain on the 49th parallel. (Dawson.) Canada to the Saskatchewan. (Richardson.)

(1586.) **L. hirtum**, Lehm.*Batschia Gmelini*, Michx. Fl. I., 130.

Port Erie and Point Albino, at the outlet of Lake Erie. (David F. Day.) On the sandy beach of Pelee Point, Lake Erie, in large tufts. (Macoun.) In the vicinity of Sarnia, River St. Clair, Ont. (Burgess.) Upper Canada. (Goldie.) Lake Huron. (Dr. Todd) Long Point, Lake Erie. 1843. (Macnab.) Bosanquet, shore of Lake Huron, Ont. (McGill Coll. Herb.) Vicinity of Toronto. (Fowler.) Point Edward, near Sarnia, Ont. (J. M. Macoun.)

(1587.) **L. angustifolium**, Michx.*Batschia longiflora*, Pursh Fl. I., 132.*L. incisum*, Lehm. Hook. Fl. II., 87.*L. Mandanense*, Hook. Fl. II., 88.*Pentalophus longiflorus* and *P. Mandanensis*, A. DC. Prodr. X., 87.

Banks of the Saskatchewan to Lat. 55° (Richardson.) Along the Eagle and Red Deer rivers (hills?); also in the valleys of the Rocky Mountains, near the sources of the Athabasca. (Drummond.) Abundant from Manitoba westward to the Rocky Mountains. (Macoun.) Souris Valley, 49th parallel; on top of gravel ridge, Verdigris Coulee, north of Milk River; also, Nicola Valley, B.C. (Dawson.) Vicinity of the Thompson River from Lytton to Cache Creek; Crossing of the Black-water River, Telegraph Trail, B.C. (Macoun.)

420. ONOSMODIUM, Michx.(1588.) **O. Carolinianum**, DC.

Alluvial soil in river bottoms; growing in clumps. At Belleville, on commons, along the Moira River; also in Cold Creek Valley at Wooler,

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Northumberland Co., Ont. (*Macoun.*) Brantford, Ont. (*MacLagan.*) Not uncommon in the valley of the Thames at London, Ont. (*Saunders & Burgess.*)

Var. **molle**, Gray.

Onosmodium molle, Michx. Fl. I., 133.

O. hispidum, Michx. Bourgeau in Palliser's Report, p. 259.

Vicinity of Winnipeg. (*Bourgeau.*) Turtle Mountain, 49th parallel. (*Dawson.*) On the Bow River at the Blackfoot Crossing east of Calgary. (*Macoun.*)

(1589.) **O. Virginianum**, DC.

O. hispidum, Michx. Fl. I., 133.

Hillsides and banks. Vicinity of London, Ont. (*Burgess.*) Island of Orleans near Quebec. (*Thomas.*) I suspect Dr. Thomas means *Lithospermum officinate* in the above quotation.

421. SYMPHYTUM, Linn. (COMFREY.)

(1590.) **S. officinale**, Linn.

This plant is *naturalized* in most of the older settlements, but does not spread. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) In waste places at Yarmouth, N.S. (*Macoun.*) Apparently naturalized in St. John Cemetery, N.B. (*Fowler's Cat.*) Montreal Mountain; Cowansville, Eastern Townships, Q.; and St. Thomas, Ont. (*McGill Coll. Herb.*) Rideau Rifle-range, Ottawa, and at Buckingham, Q. (*Fletcher Fl. Ott.*) Roadsides and old neglected gardens, Northumberland Co., Ont.; also along the streets of Owen Sound, Ont. (*Macoun.*) Niagara Falls. (*MacLagan.*) Vicinity of London, Ont. (*Saunders & Burgess.*) Our form is the Var. *patens* of Smith's English Botany.

422. LYCOPSIS, Linn. (BUGLOSS.)

(1591.) **L. arvensis**, Linn.

Dry waste grounds *naturalized* principally eastward. On ballast heaps, Pictou, N.S. (*Macoun.*) Sand Beach, Eel River, Restigouche Co., N.B. (*Fowler's Cat.*) On the beach at Rustico, Prince Edward Island; also at Kamouraska, Q. (*McGill Coll. Herb.*) Occasionally seen in fields and waste places along the Gaspé coast up to Métis. (*Macoun.*) Occasionally about dwellings, Rivière-du-Loup, Q. (*Thomas.*)

Montreal Mountain. (*MacLagan.*) Sandy fields in the vicinity of Ottawa. (*Fletcher Fl. Ott.*) In the streets of Kingston near the Court House, Ont. (*Macoun.*)

423. ECHIU, Linn. (VIPER'S BUGLOSS, BLUEWEED.)

(1592.) **E. vulgare**, Linn.

Roadsides and sandy pasture fields, *naturalized* and spreading. Near New Glasgow, N.S. (*How.*) Quaco and Petitcodiac, N.B. (*Brittain.*) Abundant in sandy pasture fields near Ottawa. (*Fletcher Fl. Ott.*) Roadsides, common and abundant on sand-banks, a few miles north of Prescott, Ont. (*Billings.*) Roadsides near Belleville and in pastures near Albert College; also on the Oak Hills and at Stirling, Hastings Co.; in farmers' lanes and along roadsides near Campbellford, Ont. (*Macoun.*) Banks of the Thames, near London, common. Flowers both blue and white. (*Saunders & Burgess.*) Delaware and Lobo, Ont. (*McGill Coll. Herb.*) Spreading in a wonderful manner in West Toronto and Brocton, on the dry sand. There are acres of it annually. (*Fowler.*)

424. BORRACO, Linn. (COMMON BORAGE.)

(1593.) **B. officinalis**, Linn.

A garden *escape* in some places in Nova Scotia. (*Lindsay.*) In the streets of Brighton village, Northumberland Co., Ont. (*Macoun.*) Growing in the township of Mariposa on the gravel road near Grass-hill, where it appears to be completely *naturalized*. Seeds very likely brought from Devonshire by immigrants who settled in the neighborhood. (*Fowler.*)

LXVIII. CONVOLVULACEÆ. BINDWEED FAMILY.

425. IPOMŒA, Linn. (MORNING GLORY.)

(1594.) **I. purpurea**, Lam. Common Morning Glory.

An *escape* from cultivation, but seldom becoming established. Near dwellings at Windsor, N.S. (*How.*) Frequent on waste heaps and near dwellings at Belleville, Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*)

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- (1595.) **I. pandurata**, Meyer. Man-of-the-earth.

Convolvulus panduratus, Michx. Hook. Fl. II., 77.

Dry ground, western Ontario. (Gray.) In deep, warm, gravelly soil, at the southern end of Pelee Point, Lake Erie. (Macoun.)

426. CONVULVULUS, Linn. (BINDWEED.)

- (1596.) **C. Soldanella**, Linn.

Calystegia Soldanella, R. Br. DC. Prodr. IX., 433.

Sands of the Pacific coast to Puget Sound. (Gray.) It probably reaches British Columbia.

- (1597.) **C. spithameus**, Linn.

Calystegia spithamea, Pursh. Gray, Man. Ed. V., 376. Macoun's Cat., No. 1407.

C. tomentosa, Pursh. Fl. I., 434.

Convolvulus stans, Michx. Fl. I., 136.

Dry gravelly hillsides and open woods. Pennant, N.S. (Sommers.) Hills of St. Maurice, Q. (MacLagan.) Vicinity of Ottawa. (Fletcher Fl. Ott.) Grand Trunk gravel pit west of Prescott, Ont. (Billings.) Dry gravelly hillsides and borders of fields, common, Hastings and Northumberland counties, Ont. (Macoun.) Vicinity of Toronto. (Fowler.) Common on gravelly soil in the vicinity of London, Ont. (Saunders & Burgess.) Gravel ridges, north shore of Lake Superior; also, sandy hillsides, 20 miles up the Kaministiquia River and farther up the river and within the limits of Port Arthur. On the Souris Plain near the source of Pile of Bones Creek. (Macoun.) Red River Prairie at Emerson, 49th parallel; also, banks of Belly River. (Dawson.) Canada to the Saskatchewan. (Drummond.)

- (1598.) **C. sepium**, Linn. Bracted Convolvulus.

Calystegia sepium, R. Br. Gray, Man. Ed. V., 376. Macoun's Cat., No. 1406.

Moist alluvial soil, generally along rivers. Flowers generally white or tinged with rose-color, peduncles elongated, bracts mostly acute. Chelsea Road, 5 miles from Ottawa. (Fletcher.)

Var. **Americanus**, Sims.

Calystegia sepium, var. *rosea*, Choisy. DC. Prodr. IX., 433.

Same situations as the last, but distinguished by the corolla being pink, or rose purple, and the bracts obtuse. All references are placed under the variety as we have no means at present of judging which

form is meant. Neighborhood of Halifax, N.S. (*Lawson.*) Pictou, N.S. (*McKay.*) Parrsboro', Cumberland Co., N.S. (*How.*) Rather common near the coast, N.B. (*Fowler's Cat.*) Abundant throughout Ontario, and extending westward to the Kaministiquia River, Thunder Bay. (*Macoun.*)

Var. **repens**, Gray.

Calystegia sepium, var. *pubescens*, Gray, *Man. Ed. V.*, 376.

In this variety the leaves are more or less pubescent and the bracts and leaves fringed with soft hairs. Lake of the Woods, Turtle Mountain, and Trader's Road near Wood Mountain, 49th parallel, all in flower. On the third prairie steppe it only appears along the borders of streams in sheltered positions. (*Dawson.*) Souris and Qu'Appelle rivers. (*J. M. Macoun, C. P. R. Coll.*) Frequent in thickets as far west as the Hand Hills, Long. 112°. (*Macoun.*) Canada to the Rocky Mountains. (*Richardson & Drummond.*)

Var. **maritima**. (?)

Specimens growing in a brackish marsh and occasionally covered by spring tides were obtained, near Sydney Mines, Cape Breton, in 1883. All parts of the plant were very pubescent and quite different from the pubescent form from the prairie region. On the Magdalen Islands in the Gulf of St. Lawrence. (*McKay.*) Eel River, N.B. (*Fletcher.*)

(1599.) **C. arvensis**, Linn. Bindweed.

Naturalized. On ballast heaps at Pictou, N.S. (*Macoun & McKay.*) In cultivated fields rather rare, N.B. (*Fowler's Cat.*) Beauharnois Co., Q., and at Strathroy, Ont. (*McGill Coll. Herb.*) Near Cumming's Bridge, and in the Public Park, Ottawa. (*Fletcher Fl. Ott.*) Bank of the St. Lawrence, a mile west of Prescott, Ont. (*Billings.*) Introduced into gardens at Belleville, with strawberry plants and spreading; roadsides near Essex Centre, Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*) On the Insane Asylum Farm, Toronto. (*Fowler.*)

427. CUSCUTA, Linn. (DODDER.)

(1600.) **C. arvensis**, Beyrich.

On dry gravelly ridges, Manitoba and westward. Climbing over low plants of *Lygodesmia juncea* at Pine Creek, Manitoba, and on *Artemisia frigida* on the Cypress Hills. Specimens identified by Dr. Englemann.

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(1601.) **C. tenuiflora**, Engelm.

From Wisconsin north to the Saskatchewan. (Gray.)

(1602.) **C. salina**, Engelm.

Saline or brackish marshes of the Pacific coast. (Gray.) On short stems of *Salicornia*, in marshes near Victoria, Vancouver Island. (Fletcher.)

(1603.) **C. Gronovii**, Willd.

C. umbrosa, Beyrich. Hook. Fl. II., 78, in part.

Wet shady places, especially in the valleys of large or small streams. Grand Lake near Halifax, N.S. (McKay.) Twining around grass and other herbaceous plants, mouth of the Kennebecasis, N.B. (Fowler's Cat.) Wet places, by brooks, St. Stephen, N.B. (Vroom.) Boucher-ville Island, near Montreal. 1821. (Holmes.) Vicinity of Ottawa. (Fletcher Fl. Ott.) Border of a small stream, one mile north of O'Brien's Bridge, Hastings Co.; border of Cold Creek at Wooler, Northumberland Co.; on an island in Cameron's Lake, near Fenelon Falls, Victoria Co., Ont. (Macoun.) Vicinity of Hamilton, Ont. (Logie.) Chippawa, and on an island in Detroit River. (MacLagan.) Near Strathroy, Ont. (McGill Coll. Herb.) Vicinity of London, Ont. (Burgess.) Common around Lakefield, Ont. (Mrs. Traill.) Norway House Fort (Drummond.) Vicinity of Toronto. (Fowler.) Roseau River, 49th parallel. (Dawson.) Climbing over bushes, shore of Lonely Lake, near Lake of the Woods. (R. Bell.)

(1604.) **C. compacta**, Juss.

Almost always on shrubs. A plant with coarse stems having flowers nearly two lines long. Credited to Canada by Dr. Gray. Malden, Ont. (MacLagan.)

(1605.) **C. epillum**, Weihe.

Introduced. In the vicinity of Pictou, N.S. (McKay.) Lower St. Lawrence, doubtless in fields. (Burgess.)

(1606.) **C. Trifolii**, Bab. Clover Dodder.

Noticed in a field of clover, which it had nearly destroyed, in Victoria Co., Ont. (Fowler.) Introduced with clover seed.

The species of this genus should be carefully collected and both their habitats and host plants noted.

LXIX. SOLANACEÆ. POTATO FAMILY.

428. SOLANUM, Linn. (NIGHTSHADE.)

(1607.) **S. triflorum**, Nutt

Around "badger" holes on the prairie, or where the sod has been broken. In the vicinity of Fort Carlton and at the entrance to "badger" holes westward to Edmonton. (*Drummond.*) Very common near "badger" holes and along the railways throughout the prairie region. (*Macoun.*) South of Wood Mountain, not uncommon over a great part of the second and third prairie steppes. Another form was observed at the First Crossing of the Souris in low ground, 49th parallel. (*Dawson.*) Rather common on the Souris Plain, and westward to the Blackfoot Crossing on Bow River. (*J. M. Macoun.*)

(1608.) **S. nigrum**, Linn.

Common in damp shady situations, especially in low woods lately burnt over. We seem to have two forms: one native which is low and spreading, and a stouter form which is commonly in cultivated grounds. Frequent in suitable localities from the Atlantic provinces to the Rocky Mountains and perhaps beyond.

(1609.) **S. Dulcamara**, Linn. Bittersweet.

Near dwellings, around gardens and in fence corners. It is also frequently found climbing over logs in low wet woods and in the vicinity of small brooks far from dwellings. Completely *naturalized* in Ontario and growing from seeds carried by birds.

(1610.) **S. rostratum**, Dunal.

S. heterandrum, Pursh Fl. I., 156.

Spontaneous within the limits of the city of Ottawa for a number of years. (*Fletcher Fl. Ott.*)

(1611.) **S. Carolinense**, Linn.

Sandy and waste grounds near Fort Erie at the foot of Lake Erie. (*David F. Day.*)

429. LYCOPERSICUM, Mill. (TOMATO.)

(1612.) **L. esculentum**, Mill. Cherry-Tomato.

Frequently spontaneous in gardens. Throughout Ontario tomato

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1614. Occasionally found at Hull, especially where
the woods have been burnt down.
In the woods near the Cemetery on the Ogilvie road.

seeds, that have lain on the ground all winter, vegetate in the spring and are often transplanted. Spontaneous in one or two places near Halifax, N.S. (*Lindsay*.) In this connection I may mention that potato seeds always grow in the North-west, after lying exposed on the surface of the ground all winter. While at Battleford, in the summer of 1879, I saw myriads of plants in an old potato patch, and in October of the same year found the ground covered with potato balls (fruit) the seeds of which would certainly grow the next spring. I conclude from the above that both the Tomato and Potato are perfectly at home in Canada, and that in our North-west new varieties of potatoes will yet be produced that will supersede the diseased or weakened ones of the east.

430. *PHYSALIS*, Linn. (GROUND CHERRY.)

(1613.) *P. Peruviana*, Linn. Cape Gooseberry.

Spontaneous in a few places about Ottawa. (*Fletcher Fl. Ott.*)

(1614.) *P. grandiflora*, Hook.

Shore of the St. Lawrence below Murray Bay. (*Sheppard & McGill Coll. Herb.*) Powell's ~~Crist Mill~~ near Ottawa. (*Fletcher Fl. Ott.*) Abundant in new clearings in the northern parts of Addington, Hastings, Peterboro' and Victoria counties, Ont.; also quite common in burnt woods, near Wiarton, Bruce Peninsula; also, along the C.P.R. between Red Rock and Port Arthur. (*Macoun.*) Malden, Ont. (*MacLagan.*) Township of Miraposa, Ontario Co., Ont. (*Fowler.*) North shore of Lake Superior. (*Agassiz.*) Sandy banks of the Saskatchewan, sparingly. (*Drummond.*) Near old encampments on the shores of Lake Winnipeg, where fires have been made. (*Richardson.*) Red River, rare. (*Douglas.*) Elk Island, Lake Winnipeg. (*J. M. Macoun.*)

(1615.) *P. pubescens*, Linn.

P. obscura, var. *viscido-pubescens*, Pursh Fl. I., 157.

Found occasionally in gardens, but scarcely spontaneous, N. B. (*Fowler's Cat.*) Vicinity of Ottawa on waste heaps. In cultivated ground Chinaman's Rancho, near Cache Creek, B.C. (*Fletcher.*)

(1616.) *P. Virginiana*, Mill.

P. viscosa, Gray, Man. Ed. V., 382. Macoun's Cat., No. 1422.

P. Pennsylvanica, Hook. Fl. II., 90, in part.

Light or sandy soils, western Ontario. Lake Huron, plentiful.

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*This is a mistake
O.S. reference, my plant is certainly not a Physalis !*

(*Dr. Todd.*) Sand hills, three miles up the Humber, west of Toronto; common at Niagara Falls, on Point Pelee and in new meadows, two miles west of Collingwood, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Malden and islands in Detroit River. (*MacLagan.*) In the neighborhood of St. Thomas. (*Miss Kate Crooks.*) Along the G. W. R. track east of London. (*Saunders.*) Vicinity of London and Port Stanley, Ont. (*Burgess.*) Strathroy, Ont. (*McGill Coll. Herb.*) Mount Pleasant Cemetery, Toronto. (*Fowler.*)

Var. *ambigua*, (Gray.)

P. viscosa, Linn. Dawson Bound. Rep. 352.

P. Pennsylvanica, Hook. Fl. II., 90, at least in part, (Gray.)

Winnipeg and North-west Angle Road. (*Dawson.*) Vicinity of Winnipeg. (*Bourgeau.*)

(1617.) ***P. lanceolata*, Michx.**

P. Pennsylvanica, Gray, Man. Ed. V., 382.

P. Pennsylvanica, var. *lanceolata*, Macoun's Cat., No. 1418.

Sand, thickets and banks along the railway, Port Dover Junction, Ont.; also along a creek, 15 miles west of Rat Creek, Manitoba. (*Macoun.*) Dry open ground and bottoms, Lake Winnipeg. (*Gray.*)

431. NICANDRA, Adans. (APPLE-OF-PERU.)

(1618.) ***N. physaloides*, Gærtn.**

Introduced. Escaped from gardens at Windsor, N.S. (*How.*) Wild in some gardens at Montreal, 1821. (*Holmes.*) McGill College grounds, Montreal. (*McGill Coll. Herb.*) Vicinity of Belleville, and along a road near Essex Centre, Ont. (*Macoun.*) Port Stanley, Lake Erie. (*Burgess.*) Scarcely established, Fort Erie, Ont. (*David F. Day.*)

432. LYCIUM, Linn. (MATRIMONY VINE.)

(1619.) ***L. vulgare*, Dunal. Box-thorn.**

Introduced. Waste grounds and in fence corners near dwellings. Vicinity of Kingston and London, Ont. (*Burgess.*) At Belleville, Stirling, Campbellford, Brighton and Colborne, Ont. (*Macoun.*) Apparently naturalized around Hamilton, Ont. (*Buchan.*)

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433. DATURA, Linn. (STRAMONIUM.)

(1620.) **D. Stramonium**, Linn. Thorn-apple, or Jamestown Weed.

Escaped from gardens at Mahone Bay and Windsor, N.S. (*How.*) In the streets of Pictou, N.S., and by roadsides near it. (*McKay.*) A weed, well established at St. Stephen and St. Andrews, N.B. (*Vroom.*) A weed in waste ground around towns and villages and by roadsides, throughout western Quebec and Ontario.

(1621.) **D. Tatula**, Linn.

Waste grounds rather rare. A weed in gardens at Stewarton near Ottawa. (*Fletcher Fl. Ott.*) At the village of Bath, Bay of Quinte; and on Pelee Point, Lake Erie. (*Macoun.*) Fort Erie at the foot of Lake Erie, Ont. (*David F. Day.*) Vicinity of Hamilton, Ont. (*Buchan.*) St. Thomas, Ont. (*McGill Coll. Herb.*)

434. HYOSCYAMUS, Linn. (HENBANE.)

(1622.) **H. niger**, Linn. Black Henbane.

Naturalized in the neighborhood of towns and villages, preferring vacant lots and the borders of streets. A garden escape in Nova Scotia. (*Sommers.*) On the ramparts of the "Old Fort," Annapolis, N.S. (*Macoun.*) Not common in New Brunswick. (*Fowler's Cat.*) Vicinity of Bathurst, N.B. (*McGill Coll. Herb.*) Waste places vicinity of Quebec. (*Thomas.*) In the streets of Quebec and Montreal. (*MacLagan.*) Common along roadsides in Montreal, 1821. (*Holmes.*) Roadsides in and around Ottawa. (*Fletcher Fl. Ott.*) Roadsides and streets in Prescott, Ont. (*Billings.*) Streets of Belleville near the upper bridge; on sites of burnt buildings, Cobourg, Ont., and on vacant lots in Toronto. (*Macoun.*) Malden, Ont. (*MacLagan.*) Fort Erie at the foot of Lake Erie, Ont. (*David F. Day.*) Abundant on the wastes about Garrison Creek commons, and on vacant land at the north-west corner of Toronto. (*Fowler.*)

435. NICOTIANA, Linn. (TOBACCO.)

(1623.) **N. rustica**, Linn. Indian Tobacco.

Introduced. A weed in gardens at Belleville and Canniffton near that city, Ont. (*Macoun.*) Spontaneous in gardens in and around Ottawa. (*Fletcher Fl. Ott.*) A garden weed at Fort Erie, Ont. (*David F. Day.*)

(1624.) **N. attenuata**, Torr.

Abundant on sand hills from Lytton to above Spence's Bridge, along the Thompson River, B.C. (*Hill & Fletcher.*)

LXX. SCROPHULARIACEÆ. FIG-WORT FAMILY.

436. **VERBASCUM**, Linn. (MULLEIN.)(1625.) **V. Thapsus**, Linn. Common Mullein.

A very common *naturalized* weed by roadsides, borders of woods and in old and thin pasture fields throughout Ontario. In the same situations, but scarcely so common in the eastern provinces and Quebec.

(1626.) **V. Lychnitis**, Linn. White Mullein.

Fields and new meadows. Very rare. West Augusta, near Hamilton, Ont. (*Logie.*) *Scarcely naturalized.*

(1627.) **V. Blattaria**, Linn. Moth Mullein.

V. Claytoni, Michx. Fl. L., 146.

Naturalized by roadsides and in fields. Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Fields near Napanee, Ont. (*Rev. J. Scott.*) Near the Scotch Church, Burn Brae, Seymour, Ont.; also in abundance along a road between Niagara and Queenston, and at Niagara Falls. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Dundas, Ont. (*MacLagan.*) London and Niagara Falls. (*Burgess.*) Strathroy, Ont. (*McGill Coll. Herb.*) Parkdale, Toronto. (*Fowler.*)

437. **LINARIA**, Juss. (TOAD-FLAX.)(1628.) **L. Canadensis**, Dumont. Wild Toad-Flax.

Antirrhinum Canadense, Pursh Fl. II., 421.

Sandy or gravelly soil, Canada. (*Gray.*) Halifax, N.S. (*How.*) St. Stephen, N.B. (*Vroom.*)

(1629.) **L. vulgaris**, Mill. Butter and Eggs.

Antirrhinum Linaria, Pursh Fl. II., 421.

Very common by roadsides, near gardens and in fence corners. Apparently common in Nova Scotia, but rarer in New Brunswick. In Quebec and Ontario, it is *naturalized* wherever there are settlements.

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A monstrous state (*L. vulgaris*, var. *Peloria*), where each flower has five spurs, instead of one, has been found at Ottawa by Mr. Fletcher and in Nova Scotia by Mr. Trueman.

(1630.) **L. Elatine**, Mill.

Antirrhinum Elatine, Pursh Fl. II., 421.

Sandy banks and shores, rather rare. Canada. (Gray.) Scarcely naturalized.

(1631.) **L. Cymbalaria**, Mill. Ivy Linaria.

On the ballast wharf, St. John, N.B. (Hay.)

(1632.) **L. minor**, Desf.

On the ballast wharf, St. John, N.B. (Hay.)

438. ANTIRRHINUM, Linn. (SNAPDRAGON.)

(1633.) **A. Orontium**, Linn. Corn Snapdragon.

Sparingly introduced at Victoria, Vancouver Island. (Fletcher.)

439. COLLINSIA, Nutt.

(1634.) **C. grandiflora**, Dougl.

Grassy and gravelly hillsides, in great profusion, near Victoria, Vancouver Island. (Dawson & Fletcher.)

Var. **pusilla**, Gray.

Abundant around Victoria, Vancouver Island. (Macoun & Hill.) Coldwater River near Yale and on the Blackwater River in northern British Columbia. (Dawson.)

(1635.) **C. parviflora**, Dougl.

C. pauciflora, Lindl. Hook. Fl. II., 94.

On limestone shingle, Massassaga Point, near Belleville, Ont. (Macoun.) Lake Winnipeg. (Capt. Back.) Saskatchewan. (Richardson.) Western summit of the North Kootanie Pass, Rocky Mountains, Lat. 50°. (Dawson.)

440. SCROPHULARIA, Linn. (FIGWORT.)**(1636.) S. nodosa, Linn. Var. Marylandica, Gray.***S. nodosa*, Linn. Gray, Man. Ed. V., 327. Macoun's Cat., No. 1241.*S. Marylandica*, Linn. Hook. Fl. II., 94.*S. lanceolata*, Pursh Fl. II., 419.

Montreal Mountain. 1821. (*Holmes.*) Quebec, and on the Island of Orleans. (*Thomas.*) Nicolet and Three Rivers, Q. (*MacLagan.*) Casselman Station, Carleton Co. (*Macoun.*) Common near Prescott, Ont. (*Billings.*) On the Thousand Islands in the St. Lawrence near Brockville; very common on islands in the Bay of Quinte; also by roadsides near Belleville; common on islands in Rice Lake. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Chippawa, Ont. (*MacLagan.*) Field near Cove, in the vicinity of London, Ont. (*Saunders & Burgess.*) Fort Erie, Ont. (*David F. Day.*) Wet places, north-west corner of Toronto. (*Fowler.*)

441. CHELONE, Linn. (TURTLE-HEAD. BALMONY.)**(1637.) C. glabra, Linn.***C. glabra* var. *alba*, Pursh Fl. II., 427.

In bogs, wet meadows and by brooks. Quite common from Newfoundland, Nova Scotia, and New Brunswick westward throughout Quebec and Ontario. Lake of the Woods. (*Dawson.*) Turtle Mountain, 49th parallel. (*Burgess.*)

(1638.) C. nemorosa, Dougl.*C. ramosa*, Dougl. Hook. Fl. II., 95.

Woods along mountain streamlets. Woods in the Kootanie Pass, Rocky Mountains, 49th parallel. (*Dawson.*)

442. PENTSTEMON, Mitchell. (BEARD-TONGUE.)**(1639.) P. Menziesii, Hook.***P. Lewisii*, Benth. DC. Prodr. X., 321.*Gerardia fruticosa*, Pursh Fl. II., 423.

On rocks and mountain tops. Summit of South Kootanie Pass; also, eastern summit of North Kootanie Pass. (*Dawson.*) Bow River Pass, Rocky Mountains. (*Macoun.*)

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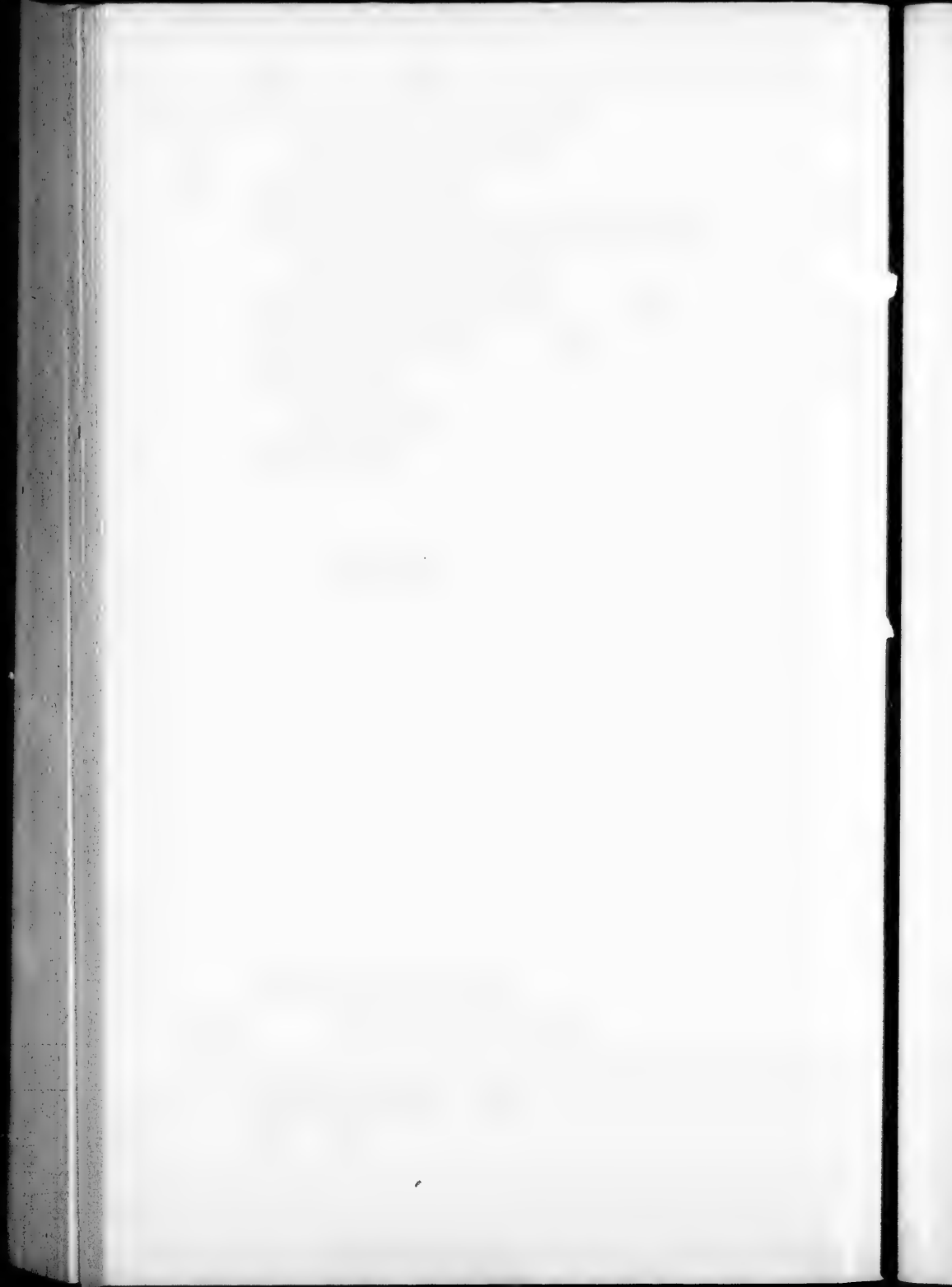
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Var. **Scouleri**, Gray.*P. Menziesii*, Hook. Fl. II., 98, in part.

Along the southern boundary of British Columbia. (*Lyall*.) Very abundant in the Cascade Mountains, along the Fraser River, above Yale, B.C. (*Macoun, Dawson & Hill*.) Nutka. (*Menzies*.)

(1640.) **P. frutescens**, Lamb.

Ounalashka. (*Pallas*.) Dr. Gray doubts the occurrence of this plant on the above island.

(1641.) **P. acuminatus**, Dougl.*P. nitidus*, Dougl. Bourgeau, Pl. 259.

Red Deer and Eagle Hills, and other dry places on the Saskatchewan, Assiniboine and Red rivers. (*Richardson & Douglas*.) Dry banks near Short Creek, Souris River, 49th parallel; also Fossil Coulee, Milk River Ridge. (*Dawson*.) Abundant on the dry slopes of the Assiniboine River, at and above Brandon, on the dry slopes of the Qu'Appelle River near its mouth, and frequent farther west on dry ridges and upper slopes of coulee and river banks. (*Macoun*.) On gravel hills at Moose Mountain Creek, and abundant on dry slopes in the Cypress Hills and at Maple Creek. (*J. M. Macoun, C. P. R. Coll.*)

(1642.) **P. cristatus**, Nutt.*P. Erianthera*, Pursh Fl. II., 737.*P. pubescens*, Sol. Dawson, Bound. Rep. 368, in part.*P. attenuatus*, Dawson, Bound. Rep. 368. Macoun's Cat., No. 1248.

Rising ground, Red River prairie, and near Wood Mountain on the open prairie, 49th parallel; also gravelly slopes along the Milk River. (*Dawson*.) Dry gravelly soil, frequent from Brandon southward and westward, on the open prairie. (*Macoun*.) On light sandy soil throughout the country south and west of Moose Mountain, and very common at Maple Creek north of the Cypress Hills. (*J. M. Macoun, C. P. R. Coll.*)

(1643.) **P. ovatus**, Dougl.

Along the southern boundary of British Columbia. (*Gray*.) Elk River Valley west side of Rocky Mountains, B.C. (*Dawson*.)

(1644.) **P. confertus**, Dougl.

Mountain pine woods, in dry sandy soils, on the Columbia River. (*Douglas*.) South Kootanie Pass, 49th parallel; Crow Nest Pass and on the Flathead River, and Elk River Valley, B.C. (*Dawson*.) Bow

River Pass on mountain slopes. (*Macoun.*) Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*)

Var. **cæruleo-purpureus**, Gray.

P. procerus, Dougl. Hook. Fl. II, 97.

P. Tolmiei, Hook. Fl. II, 98.

Plains of the Saskatchewan to the Rocky Mountains. (*Richardson & Drummond.*) Trader's Road, and at Wood Mountain, 49th parallel; Milk River Ridge and westward up the Old Man River within the Rocky Mountains. (*Dawson.*) Frequent on the grassy slopes of coulees and depressions in the prairie from Brandon westward to the Rocky Mountains and northward from Calgary by Edmonton, the Athabasca River and Peace River prairie to Lat. 56°; very abundant in northern British Columbia, and common on the Fraser and Thompson rivers. (*Macoun.*) Along Ilgacho Brook and on the Tsi-tsutl Mountains, B.C. (*Dawson.*)

(1645.) **P. humilis**, Nutt.

In the Rocky Mountains near the British boundary. (*Gray.*)

(1646.) **P. gracilis**, Nutt.

Red River and Saskatchewan. (*Richardson & Drummond.*) Frequent on dry hillsides throughout Manitoba and the western prairie region. (*Macoun.*) West of Moose Mountain Creek on dry soil, and plentiful north of Cypress Hills. (*J. M. Macoun, C. P. R. Coll.*) On the 49th parallel near Emerson, Man. (*Burgess.*)

(1647.) **P. pubescens**, Solander.

On dry, gravelly or sandy soil apparently confined to Ontario. Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Burnt lands in Huntley Township, Carleton Co., and at the Fourth Chute of the Bonnechère, Renfrew Co., Ont. (*Rev. J. K. McMorine.*) Abundant in the counties of Hastings and Northumberland, Ont. (*Macoun.*) Waterdown Road, Burlington Heights, Hamilton, Ont. (*Logie.*) Niagara River, Navy Island and Malden, Ont. (*MacLagan.*) Vicinity of London, and on Point Pelee, Lake Erie. (*Burgess.*) Port Colborne, entrance to Welland Canal, Ont. (*David F. Day.*) Strathroy, Ont. (*McGill Coll. Herb.*) Lake of the Woods. (*Dawson.*)

(1648.) **P. glaucus**, Graham.

Rocky Mountains between Lat. 52–56°. (*Drummond.*) Summit of the South Kootanie Pass, Lat. 49°, Rocky Mountains. (*Dawson.*) Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*) On the Lower Mackenzie River. (*McGill Coll. Herb.*)

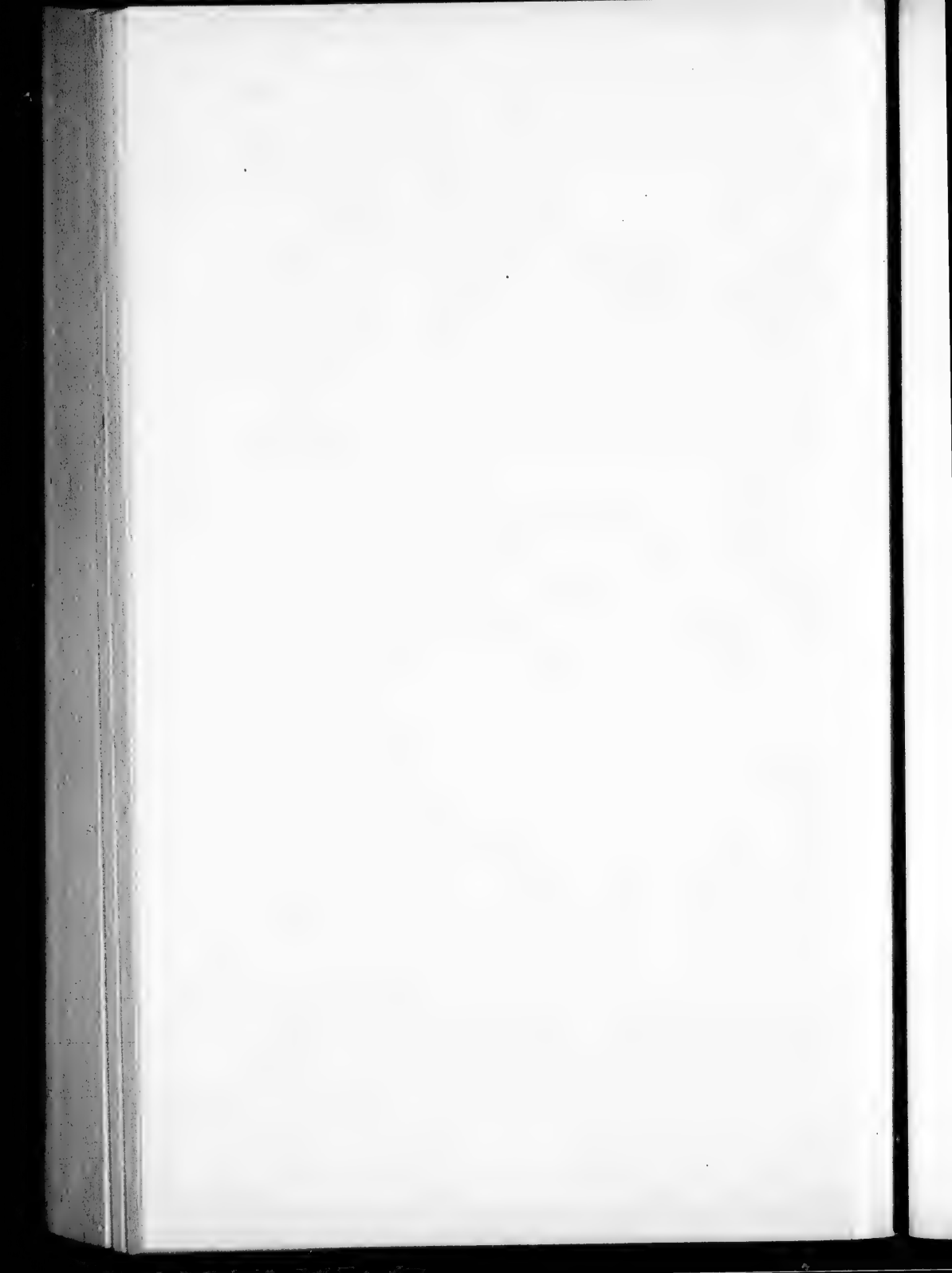
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(1649.) **P. deustus**, Dougl.

On dry soil, north to the borders of British Columbia. (Gray.)

(1650.) **P. venustus**, Dougl.

P. dasyphyllus, Gray. Dawson, Bound. Rep., 369.

South Kootanie Pass, Lat. 49°; Crow Nest Pass and Wigwam River, Rocky Mountains. (Dawson.) On the higher slopes of the Rocky Mountains, Kicking Horse Pass. (Macoun.)

(1651.) **P. diffusus**, Dougl.

P. serrulatus, Menzies. Hook. Fl. II., 95.

North-west Coast. (Menzies.) Rocky banks, Coldwater River, B.C. (Dawson.) Wooded banks, Fraser River, near the coast. (Cowley.)

(1652.) **P. triphyllus**, Dougl.

On rocks from Oregon to British Columbia. (Gray.)

443. MIMULUS, Linn. (MONKEY-FLOWER.)(1653.) **M. Lewisii**, Pursh.

M. roseus, Lindl. Hook. Fl. II., 100.

Shady and moist, or wet ground around springs. Observed growing in mossy places bordering streams, in the South Kootanie Pass to an altitude of 6,000 feet; Michell Creek and Flathead River, Rocky Mountains. (Dawson.) Mountains north of the Smoky River, Lat. 55°. (Drummond.) Around a spring opposite Hudson's Hope, Rocky Mountain Cañon, Peace River, Lat. 56°. (Macoun.) Along mountain brooks, Cariboo, B.C. (Cowley.)

(1654.) **M. ringens**, Linn.

In ditches and brooks common from Cape Breton westward to the Saskatchewan. A variety with white flowers is abundant along ditches in the township of Seymour, about 5 miles north of Campbellford, Northumberland Co., Ont. (Macoun.)

(1655.) **M. Jamesii**, Torr. & Gray.

In water or wet places usually in springs. York Mills, near Toronto, Ont. (R. M. Stark.) On the borders of Grenadier Pond, near Toronto. (Fowler.)

(1656.) **M. luteus**, Linn.*M. guttatus*, DC. Hook. Fl. II., 99.*M. Scouleri*, Hook. Fl. II., 100.

A most variable and polymorphous species, ranging from a few inches to over three feet in height. The coast and mountain forms are usually quite small, while the Cypress Hills specimens are very tall and stout. In springs amongst the Cypress Hills. (*Macoun*.) Border of a stream at the West Butte; also observed near the Second Branch of Milk River growing in the water of a spring; and summit of South Kootanie Pass, 49th parallel; also, Queen Charlotte Islands, B.C. (*Dawson*.) Abundant along brooks in the valley of Fraser River, B.C. (*Hill*.) Very abundant around Victoria, Vancouver Island and very variable. Gathered by all collectors. Moist woods along the whole North-west Coast from Lat. 49° to Alaska. (*Hooker*.) Cape St. Elias, Ounalashka, Kodiak and Sitka. (*Rothr. Alask.*)

Var. **alpinus**, Gray.

From Alaska southward through the mountains to the 49th parallel. (*Gray*.) This form is probably included with our specimens referred to the species.

(1657.) **M. alsinoides**, Benth.

Bottom of Cañon, below Elk River bridge, Rocky Mountains. (*Dawson*) Vicinity of Victoria, Vancouver Island. (*Macoun & Hill*.)

(1658.) **M. moschatus**, Dougl!. Musk Plant.

Growing in swampy land near Alma, Albert Co., N.B. (*Brittain*.) Ditches and brooks in the vicinity of Victoria, Vancouver Island. (*Macoun & Fletcher*.) Certainly a garden escape in New Brunswick. (*Macoun*.)

444. CRATIOLA, Linn. (HEDGE HYSSOP.)(1659.) **C. ebracteata**, Benth.

In ditches and wet places around Victoria, Vancouver Island. (*Macoun*.)

(1660.) **C. Virginiana**, Linn.

Belœil Mountain and Montreal. (*MacLagan*.) At Beauport near Quebec. (*Thomas*.) In mud at Gould's Wharf, Horton, Renfrew Co., Ont. (*Rev. J. K. McMorine*.) Vicinity of Ottawa. (*Fletcher Fl. Ott.*)

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Muddy border of a small brook, 3 miles west of Belleville, Ont. (*Macoun.*) St. Catharines, Ont. (*MacLagan.*) Hamilton, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*) Red River flats near Emerson, Man. (*Dawson.*) Abundant in exsiccated places near Fort Walsh, Cypress Hills; also in a muddy flat, south of Battleford, N. W. T. (*Macoun.*) Lake Winnipeg. (*Richardson.*) Plains of the Red River, Man. (*Douglas.*) Northward to British Columbia. (*Gray.*)

(1661.) **G. aurea**, Muhl.

G. officinalis, Michx. Fl. I., 6.

Muddy bank of Richelieu River, and at St. John's, Q. (*Nat. Hist. Coll., Montreal.*) On the muddy beach of the Ottawa River, at Mansfield, Q. (*Rev. J. K. McMorine.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) On dried mud, or rocky flats immediately west of the railway bridge, and at the paper mill, a mile above the bridge, close to the city of Belleville, Ont. (*Macoun.*) Very common around Lake Joseph, Muskoka Co., Ont. (*Burgess.*)

445. ILYSANTHES, Raf. (FALSE PIMPERNEL.)

(1662.) **I. gratioloides**, Benth.

Gratiola anagallidea, Michx. Fl. I., 6.

Lindernia pyxidaria, Pursh Fl. II., 419.

In muddy places along the banks of rivers and on exsiccated flats which are flooded in spring. Frequent in wet sandy or gravelly places subject to inundation, N.B. (*Fowler's Cat.*) Frequent throughout Quebec and Ontario in its usual habitats.

446. LIMOSELLA, Linn. (MUD-WORT.)

(1663.) **L. aquatica**, Linn.

York Factory, Hudson Bay. (*Drummond.*) In a muddy brook near the Hand Hills, Long. 112°; ten miles north of Edmonton in brackish mud; also on mud flats on the lower Peace River and at Fort Chipewyan, Lake Athabasca. (*Macoun.*) Short Creek, near Wood Mountain, 49th parallel. (*Burgess.*)

Var. **tenulfolia**, Hoffm.

Brackish river banks and shores. Near St. Stephen, Charlotte Co., N.B. (*Vroom.*)

447. DIGITALIS, Linn. (FOX GLOVE.)

(1664.) **D. purpurea**, Linn.

Apparently *naturalized* in a meadow about three miles from South Sydney on the Louisburg Road, Cape Breton. (*Macoun.*) Between Port Hastings and New Westminster, B.C. (*Fletcher.*)

448. SYNTHYRIS, Benth.

(1665.) **S. rubra**, Benth.

Gymnandra rubra, Dougl. Hook. Fl. II., 103.

On dry gravelly soil along the southern trail, near Fort Walsh, Cypress Hills, N.W.T. (*Macoun.*) Ten miles west of Fort Walsh. (*Dawson.*) Along the Flathead River, B.C. [?] (*Douglas.*)

449. VERONICA, Linn. (SPEEDWELL. BROOKLIME.)

(1666.) **V. Virginica**, Linn. Culver's Physic.

Moist woods and banks from Canada and Winnipeg valley southward. (*Gray.*) Islands in Detroit River. (*MacLagan.*)

(1667.) **V. Anagallis**, Linn. Water Speedwell.

In brooks and muddy places and in springs, rather common. In ditches near Pictou, N.S. (*McKay.*) Lachine Rapids, near Montreal. 1821. (*Holmes.*) Shore of Lake Abbitibee, northern Quebec. (*Richardson.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Wet places, common at Prescott, Ont. (*Billings.*) Ramsay, Carleton Co., Ont. (*Rev. J. K. McMorine.*) Vicinity of Hamilton, Ont. (*Logie.*) Neighborhood of London, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*) Ditches and boggy places around Belleville, Ont.; ditches at Owen Sound and along the north shore of Lake Superior; also in a muddy brook east of the Hand Hills, and north of Cypress Hills, N.W.T. (*Macoun.*) Throughout Canada to the Rocky Mountains. (*Drummond.*) Northwest coast of British Columbia. (*Douglas.*)

(1668.) **V. Americana**, Schwein. American Brooklime.

V. Beccabunga, Hook. Fl. II., 101.

V. Anagallis, Bong. Rothr. Alask., 452.

Abundant in brooks, springs and ditches from Anticosti, Nova Scotia, and New Brunswick westward across the continent to the Pacific

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Coast. It extends (as far as known) northward to Lake Athabasca on the east of the Rocky Mountains and on the west to Sitka and Ounashka.

(1669.) **V. scutellata**, Linn. Marsh Speedwell.

Very common in ditches and swamps having the same range westerly as the preceding, not recorded from any point north of Lake Athabasca. (*Macoun.*) Canada to English River, Lat. 56°. (*Richardson.*) Abundant in British Columbia. (*Fletcher.*)

Var. **pubescens**, Macoun.

This variety is very common in spring brooks around Belleville, Ont. It is the only form found there and differs from the type only in its pubescent stem and leaves. The hairs cover every part except the flower, and are quite hard, making the plant almost hirsute.

(1670.) **V. Chamædrys**, Linn. Germander Speedwell.

Sparingly naturalized in a few localities. Windsor, N.S. (*How.*) Halifax, N.S. (*Lawson.*) Not uncommon on the heights of Point Levis, Q. (*Macoun & Thomas.*) Vicinity of Quebec. (*MacLagan.*)

(1671.) **V. officinalis**, Linn.

Abundant in open grassy places on Point Pleasant near Halifax, and across the harbor on the hills above Dartmouth, N.S. (*Macoun & McGill Coll. Herb.*) Around Pictou and Halifax, N.S. (*McKay.*) Dry fields or hills, Norton, and near Fredericton, N.B. (*Fowler's Cat.*) Roadsides near Campbellton, N.B. (*Chalmers.*) Roadsides near Ottawa. (*Fletcher Fl. Ott.*) In pasture fields near St. Thomas, Ont. (*Macoun.*) Common around Hamilton, Ont. (*Buchan.*) Vicinity of London, Ont. (*Burgess.*) In the neighborhood of Toronto. (*Dr. Cowdry.*) Port Colborne, Ont. (*McGill Coll. Herb.*)

(1672.) **V. Kamtschatka**, Linn, f.

V. aphylla, var. *grandiflora*, Benth. in DC. Prodr. X., 476.

Kiska, one of the Aleutian Islands. (*Dall. in Gray.*)

(1673.) **V. Stelleri**, Pall.

Ounalashka and other Aleutian Islands. (*Gray.*)

(1674.) **V. alpina**, Linn.

V. nutans, Bong. Hook. Fl. II., 101.

V. alpina, var. *Wormskjoldii*, Hook. Fl. II., 101.

Coast of Labrador. (*Gray.*) Abundant on the summits of Mount Albert and Table Top, two of the Shickshock mountains, Gaspé.

(*Macoun & Porter.*) Rocky Mountains, South Kootanie Pass, 6,500 feet altitude, 49th parallel; Michell Creek, Crow Nest Pass, western summit of North Kootanie Pass, and head waters of High-wood River, Rocky Mountains; also near Tanyabunkat Lake, B.C. (*Dawson.*) Alpine prairies of the Rocky Mountains, Lat. 52°-56°. (*Drummond.*) Cold damp meadows near McLeod's Lake, Lat. 55°, B.C.; also on the slopes of the Rocky Mountains, Kicking Horse Pass. (*Macoun.*) Bartlett Bay, Alaska. (*Meehan.*) Sitka and Ounalashka. (*Rothr. Alask.*) Eastern specimens are much more hairy than those from the Rocky Mountains. The latter seem to represent the *V. nutans* of Bongard.

(1675.) ***V. serpyllifolia***, Linn.

Open grassy grounds, roadsides, pastures, and borders of ditches; appearing generally like an introduced plant, but extending in such situations from the Atlantic to the Pacific, and far to the north passing the Arctic Circle. On the west coast it passes north to the Aleutian Islands off the coast of Alaska.

(1676.) ***V. peregrina***, Linn. Neck-weed.

Common throughout the whole of Canada along the margins of rivers and wet or muddy places in cultivated fields, meadows or pastures. In the prairie region it is frequent on exsiccated ground and brook sides. On the margins of the great rivers it passes far to the north and almost reaches the Arctic Sea on the Mackenzie.

(1677.) ***V. arvensis***, Linn. Corn Speedwell.

Extensively *naturalized* in cultivated and waste ground. On the grassy slopes of Cape Forteau, at Yarmouth, and on Cape Blomidon, at the "Look-out," N.S. (*Macoun.*) St. Andrews, N.B. (*Vroom.*) Chamcook Mountain, N.B. (*Hay.*) Portage, King's Co., and Hillsborough, N.B. (*Brittain.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Ramsay, Carleton Co., Ont. (*Rev. J. K. McMorine.*) Miriwin's Woods, near Prescott, Ont., rare. (*Billings.*) Vicinity of Belleville at the gravel pit, and near the paper mill; also at Pine Grove, Brighton, and near the village of Castleton, Northumberland Co.; also at Owen Sound on waste places. (*Macoun.*) Kingston and Hamilton, Ont. (*MacLagan.*) Vicinity of Hamilton, Ont. (*Buchan.*) Neighborhood of London, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*)

(1678.) ***V. agrestis***, Linn.

Naturalized in Nova Scotia and New Brunswick. Windsor, N.S. (*How.*) Introduced into a garden a few years ago at Richibucto, N.B.,

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and now spreading beyond, also at Fredericton, N.B. (*Fowler's Cat.*) Vicinity of St. Andrews, N. B. (*Vroom.*) Ballast wharf, St. John, N.B. (*Hay.*) Spreading from a garden in Pictou, Ont. (*Macoun.*) Introduced with grass-seed at Ottawa. (*Fletcher.*)

(1679.) **V. Buxbaumii**, Tenore.

On ballast heaps, North Sydney, Cape Breton, and also at Pictou, N.S. (*Macoun.*) Neighborhood of Kingston and London, Ont. (*Burgess.*) Very sparingly naturalized.

450. CERARDIA, Linn. (GERARDIA.)

(1680.) **C. pedicularia**, Linn.

Dasytoma pedicularia, Benth. in DC. Prodr. X., 520.

Waterdown Road and other places near Hamilton, Ont. (*Logie.*) Niagara River. (*MacLagan.*) Sandy woods near Clifton, Niagara Falls, and dry copses on the banks of the Humber near Toronto. (*Macoun.*) On sandy soil Burford Plains, Brant Co., Ont. (*Tate.*)

(1681.) **C. flava**, Linn.

Dasytoma pubescens, Benth. in DC. Prodr. X., 521.

Oaklands, Ont. (*Miss Kate Crooks.*) Open woods, Canada. (*Gray.*)

(1682.) **C. quercifolia**, Pursh.

Dasytoma quercifolia, Benth. in DC. Prodr. X., 521.

G. integrifolia, Gray. Logie in List of Hamilton Plants.

Dry sandy woods St. James' cemetery, Toronto. (*Macoun.*) Waterdown Road and Prince's Island near Hamilton, Ont. (*Logie.*) Niagara River, Cayuga, and Malden, Ont. (*MacLagan.*) Wesleyan cemetery and along the Great Western Railway, at London, Ont. (*Saunders & Burgess.*)

(1683.) **C. aspera**, Dougl.

G. longifolia, Nutt. Hook. Fl. II., 104.

Plains and prairies from the Saskatchewan to Dakota. (*Gray.*) Pastures of the Red River, Man. (*Douglas.*)

(1684.) **C. purpurea**, Linn.

Low and moist grounds, Canada. (*Gray.*) Niagara Falls. (*Burgess.*) Windmill Point, Lake Erie. (*David F. Day.*)

Var. paupercula, Gray.*G. purpurea*, Sims. Hook. Fl. II., 104.

Lower Canada to the Saskatchewan. (Gray.) Between the Nicolet and St. Antoine suburbs, Montreal. 1821. (Holmes.) Nicolet, and Montreal, Q. (MacLagan.) Beauharnois Co., Q. (McGill Coll. Herb.) On submerged or floating logs, St. Louis dam and other places near Ottawa. (Fletcher Fl. Ott.) On wet logs at Carleton Place and Kingston Mills; also, banks of Mississippi River, Ont. (Rev J. K. McMorine.) On logs in the Bay of Quinte; in a wet field at Weller's Bay, Lake Ontario; border of a small brook, Wallbridge's Mill, Hastings Co.; also, marsh at Chicken Bay, Lake Huron. (Macoun.) Vicinity of Hamilton, Ont. (Buchan.) Toronto Island and at the Humber west of the city. (Fowler.) Parry Sound, Ont. (Burgess.) Lake of the Woods. (Dawson.) Lake Huron to the Saskatchewan. (Drummond.)

(1685.) **G. tenuifolia, Vahl.***G. erecta*, Walt. Michx. Fl. II., 20.

Low or dry ground, Canada to Minnesota. (Gray.) Nicolet, Q. (MacLagan.) On dry sandy banks of the Humber near Toronto. (Macoun.) Prince's Island near Hamilton, Ont. (Logie.) Niagara and Malden, Ont. (MacLagan.) Lonely Lake, 100 miles north-east of the Lake of the Woods. (R. Bell.)

451. CASTILLEIA, Linn. f. (PAINTED-CUP.)(1686.) **C. coccinea, Spreng. Painted-cup.***Bartsia coccinea*, Pursh Fl. II., 429.

Always on warm sandy soil to the eastward, but often on low damp soil in Manitoba. Vicinity of Belleville, and on the Oak Hills, Sidney, Hastings Co.; abundant on the oak and pine lands, Rice Lake Plains. (Macoun.) On the mountain at Hamilton, Ont. (Logie.) Don and Humber valleys near Toronto. (William Titler.) Niagara River and Malden, Ont. (MacLagan.) Whirlpool Woods, Niagara River. (David F. Day.) Great Western Railway east of London. (Saunders & Burgess.) High Park, Toronto. (Fowler.) Shore of Red Bay, Lake Huron; along the north shore of Lake Superior, and up Current River, Thunder Bay; very common in some parts of Manitoba, especially around Brandon. (Macoun.) Along Rainy River and Lake of the Woods, also rising ground east of Red River on the 49th parallel. (Dawson.) On the Souris Plain south of Moose Mountain. (J. M.

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Macoun, C. P. R. Coll.) A yellow bracted form is common in Manitoba, but it can scarcely be called a variety.

(1687.) **C. parviflora**, Bong.

C. hispida, Benth. Hook. Fl. II., 105.

Common on dry grounds, North-west Coast. (*Scouler*.) Abundant on gravelly hillsides and grassy places, Victoria, Vancouver Island. (*Macoun, Fletcher & Cowley*.) Chilcoten River west of the Fraser River, B.C., and Queen Charlotte Islands. (*Dawson*.) Bartlett Bay, Alaska. (*Meehan*.) Common from California to Alaska. (*Gray*.)

(1688.) **C. miniata**, Dougl.

C. pallida, var. *Unalaschensis*, Cham. & Schlecht., in part.

C. pallida, var. *miniata*, Gray. Macoun's Cat., No. 1283.

Abundant on damp grassy slopes throughout the whole prairie region and northward to the Peace River. (*Macoun*.) Crow Nest Pass, and eastern summit of the North Kootanie Pass, apparently common, on the Rocky Mountains; also, Chilcoten River, B.C. (*Dawson*.) Spillmacheen District, B.C. (*Hill & Cowley*.) Abundant along the Thompson, Blackwater and Nachaco rivers, B.C. (*Macoun*.) Northward to Alaska. (*Gray*.)

(1689.) **C. pallida**, Kunth.

Bartsia pallida, Linn. Pursh Fl. II., 429.

Sub-arctic, North-west America, both coast and islands. (*Gray*.) Sitka, Kotzebue Sound, Chamisso Island, and Arctic Coast; also Fort Youcon. (*Rothr. Alask.*) Pyramid Harbor, Alaska. (*Meehan*.) Pastures of the Rocky Mountains; and throughout Canada to Hudson Bay and Fort Franklin on the Mackenzie River. (*Drummond & Richardson*.) North-west coast to Behring Straits. (*Chamisso*.)

Var. **septentrionalis**, Gray.

C. septentrionalis, Lindl. Hook. Fl. II., 105.

C. pallida, var. *Unalaschensis*, Cham. & Schlecht., in part.

Bartsia acuminata, Pursh Fl. II., 429.

Exposed coasts and mountain tops. Along the rivers of Anticosti, and on the top of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun*.) Hills of the Restigouche River, N.B. (*Fowler's Cat.*) Collected in Madawaska, N.B. (*Hay*.) Temiscouta, Q. (*MacLagan*.) On Michipicotin Island and at the Hudson Bay post, entrance to Nipigon River, Lake Superior; also along the Red Deer River near the Hand Hills and on the Bow River at Morley. (*Macoun*.) Along the

Bow River at Calgary. (*J. M. Macoun.*) Foot-hills of the Rocky Mountains on the 49th parallel. (*Dawson.*) Rocky Mountains. (*Drummond.*) Arctic Sea coast. (*Richardson.*) Metapedia, N. B. (*Fletcher.*)

(1690.) **C. sessiliflora**, Pursh.

Abundant on dry ridges along the Assiniboine River, both above and below Brandon; also on Brandon Hills. (*Macoun.*) First Crossing of Souris River, on dry hillsides, 49th parallel. (*Dawson.*) Common on both sandy and gravelly soil south of Moose Mountain. (*J. M. Macoun, C. P. R. Coll.*)

452. ORTHOCARPUS, Nutt.

(1691.) **O. attenuatus**, Gray.

Quite common on gravelly and grassy places around Victoria, Vancouver Island. (*Macoun & Dawson.*)

(1692.) **O. tenuifolius**, Benth.

Bartsia tenuifolia, Pursh Fl. II., 429.

Dry ground, Montana to British Columbia. (*Gray.*) On dry slopes, Osoyoos Lake, B.C. (*Dawson.*)

(1693.) **O. bracteosus**, Benth.

Dry ground, British Columbia. (*Gray.*) On Cedar Hill, eight miles from Victoria, Vancouver Island, and in several other places around the city. (*Macoun & Fletcher.*)

(1694.) **O. luteus**, Nutt.

O. strictus, Benth. Hook. Fl. II., 104.

Plains of the Saskatchewan and prairies in the Rocky Mountains. (*Drummond.*) Abundant on the dry open prairie from Winnipeg to the Rocky Mountains and northward to Peace River. (*Macoun.*) In great profusion on the Souris Plain, south of Moose Mountain. (*J. M. Macoun, C. P. R. Coll.*) Along the 49th parallel at Emerson, Man. (*Burgess.*) North Fork of Old Man River, Rocky Mountains; also along the Chilcoten River, B.C. (*Dawson.*)

(1695.) **O. pusillus**, Benth.

On dry hillsides and gravelly soil generally, near Victoria, Vancouver Island. (*Macoun & Dawson.*)

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453. EUPHRASIA, Linn. (EYEBRIGHT.)

(1696.) **E. officinalis**, Linn.

Abundant along the coasts of the Gulf of St. Lawrence. Labrador, Anticosti, Cape Breton, Nova Scotia, New Brunswick and up the St. Lawrence on both sides to Quebec; also along the north shore of Lake Superior and in the Rocky Mountains on Bow River Pass. (*Macoun*.) Canada and Newfoundland to Lat. 64°. (*Richardson*.) Aleutian Islands and far northward. (*Dr. Gray*.) Bartlett Bay, Alaska. (*Meehan*.)

Var. **Tartarica**, Benth.

E. latifolia, Pursh, Fl. II., 430.

E. officinalis, var. β . Hook. Fl. II., 106.

This variety has pale purple flowers, while the typical form has white flowers with purple veins. Labrador. (*Pursh*.) Cape Bold and Little Rocher, N.B. (*Brittain*.) Prairies of the Rocky Mountains, Lat. 52°-56°. (*Drummond*.) Dr. Gray says that the North American plant is chiefly this variety.

454. BARTSIA, Linn.

(1697.) **B. alpina**, Linn.

Labrador. (*Kohlmeister*.) Ungava Bay, Labrador; along the Mackenzie River near the sea. (*McGill Coll. Herb.*) Fiske Fiord, Lat. 64°. (*Dr. Kane*.)

(1698.) **B. Odontites**, Huds.

Naturalized in the Atlantic provinces. Common in the vicinity, and in the streets of Pictou and along the River St. John, N.S. (*McKay*.) Near Windsor, N.S. (*How*.) At Whyecomagh, Cape Breton. (*Lindsay*.) In a field at Truemanville, N.S. (*Trueman*.) Lancaster Beach, and abundant on an island, at the Falls, mouth of St. John River, N.B. (*Hay*.)

455. PEDICULARIS, Linn. (LOUSEWORT.)

(1699.) **P. Menziesii**, Benth.

North-west Coast. (*Menzies*.) Dr. Gray remarks of this species—"Not clearly identified."

(1700.) **P. verticillata**, Linn.

Sitka and the islands generally; also Kotzebue Sound. (*Rothr. Alask.*) Alaska to Arctic Sea and Aleutian Islands. (*Dr. Gray.*)

(1701.) **P. Chamissonis**, Stev.

Ounalashka. (*Rothr. Alask.*) Aleutian Islands. (*Dr. Gray.*)

(1702.) **P. Groenlandica**, Retz.

P. surrecta, Benth. Hook. Fl. II., 107.

Labrador. (*Morrison.*) In swamps between Fort Pitt and Edmonton north of the Saskatchewan; also in peat bogs on the portage between Little Slave Lake and Peace River. Marsh at the crossing of Red Deer River below the Hand Hills. (*Macoun.*) Alpine marshes of the Rocky Mountains; York Factory, Hudson Bay. (*Drummond.*) Bogs in the Bow River Valley between Calgary and Morley. (*J. M. Macoun, C. P. R. Coll.*) Foot-hills between North and Middle Fork of Old Man River, Rocky Mountains, (*Dawson.*) West to British Columbia. (*Dr. Gray.*)

(1703.) **P. racemosa**, Dougl.

Sub-alpine regions of British Columbia. (*Dr. Gray.*) Flathead Valley; also along Osoyoos Lake, B.C. (*Dawson.*) On the upper slopes of the Rocky Mountains in the Kicking Horse Pass. (*Macoun.*)

(1704.) **P. Lapponica**, Linn.

Labrador. (*Kolmeister.*) Barren grounds between Lat. 64° and the Arctic Sea. (*Richardson.*) Disco Island, and on both sides of Baffin's Bay. (*Capt. Markham.*) Near Fort Confidence, Lat. 67°; also between the Coppermine River and Cape Turn-again, Lat. 67° 54', Long. 115° 31'. (*Dease.*)

(1705.) **P. pedicellata**, Bunge.

P. subnuda, Benth. Rothr. Alask, 452.

Sitka. (*Rothr. Alask.*) Norfolk Sound. (*Eschscholtz.*) Also in Labrador, according to Bunge. (*Dr. Gray.*)

(1706.) **P. euphrasioides**, Stephan.

Labrador. (*Kolmeister.*) Moist mossy places north of the Saskatchewan to the Arctic seashore. (*Richardson.*) Woods of *Pinus Banksiana* in the Rocky Mountains. (*Drummond.*) Along the North Saskatchewan between Fort Pitt and Edmonton. (*Macoun.*) Il-ga-chuz Mountains, B.C. (*Dawson.*) Norton and Kotzebue Sound, and islands of

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Chamisso and Kodiak. (*Rothr. Alask.*) Hudson Strait. (*McGill Coll. Herb.*) Near Fort Confidence, Lat. 67°, Long. 119°. (*Dease.*) Sussex Lake, Great Fish River. (*Dr. Rae.*)

(1707.) **P. palustris**, Linn. Var. **Wlassoviana**, Bunge.

P. Wlassoviana, Stev. Hook. Fl. II., 107.

P. palustris, Linn. Hook. Fl. II., 107.

Newfoundland. (*Dr. Morrison.*) In a marsh at the head of Ellis Bay, Anticosti. (*Macoun.*) Cacouna, River St. Lawrence. (*Burgess.*) Along the St. Lawrence at Ste. Anne des Monts. (*Allen.*) Vicinity of York Factory, Hudson Bay. (*R. Bell.*) From Hudson Bay to the Saskatchewan Plains, and at Carlton. (*Richardson & Drummond.*) On the Mackenzie River. (*McGill Coll. Herb.*) Kotzebue Sound. (*Capt. Beechy.*) Bartlett Bay, Alaska. (*Mechan.*) Arctic America, at Bay of Good Hope. (*Rothr. Alask.*)

(1708.) **P. Canadensis**, Linn. Canada Lousewort.

P. gladiata, Michx. Fl. II., 18.

Moist woodlands and gravelly banks. Vicinity of Halifax and on hillsides at Truro, N.S. (*Macoun.*) Grand Falls of the St. John, N.B. (*Moser.*) Abundant throughout western Quebec and Ontario, and extending to Manitoba House, Lake Manitoba. (*Macoun.*) Rising ground east of Red River Prairie, 49th parallel. (*Dawson.*) At the Grand Rapid of the Saskatchewan near Lake Winnipeg. (*Douglas.*)

(1709.) **P. Furbishiae**, Watson.

Upper St. John, N.B. (*Hay.*) Andover, N.B. (*Wetmore.*) Banks of the Aroostook within New Brunswick. (*Vroom.*) This is a new species lately discovered in Maine.

(1710.) **P. lanceolata**, Michx.

P. resupinata, (?) Willd. Pursh, Fl. II., 425.

P. pallida, Pursh, Fl. II., 424.

Grassy swamps eastward and rich prairie in the west. Coldstream Flats, Ont. (*McGill Coll. Herb.*) Cayuga and Malden, Ont. (*Mac-lagan.*) Niagara Falls. (*Burgess.*) Rich damp prairie, White Horse Plains, and low rich prairie near Brandon, Man. (*Macoun.*)

(1711.) **P. bracteosa**, Benth.

P. recutita, Pursh, Fl. II., 425, probably.

Shady alpine woods of the Rocky Mountains. (*Drummond.*) South Fork of Belly River, in a dense wood; lower slopes of South Kootanie

Pass, 49th parallel; western summit of North Kootanie Pass; also Crow Nest Pass. (*Dawson.*) On grassy slopes, Bow River Pass, Rocky Mountains; also Cache Creek Mountain, B.C. (*Macoun.*) Cariboo Mountains, B.C. (*Cowley.*)

(1712.) **P. Sudetica**, Willd.

Bear Lake to the Arctic sea-coast. (*Richardson.*) Cape Lisburne, Kotzebue Sound, Arctic coast and island of St. Lawrence. (*Rothr. Alask.*) St. Paul and St. Lawrence islands, &c. (*Dr. Gray.*) Melville Islands. (*Capt. Markham.*) Near Fort Confidence, Lat. 67°, Long. 119°; also westward of Mackenzie River, Lat. 71°, Long. 126°. (*Dease.*) Islands north of Lancaster Sound and Greenland. (*Hook. Arct. Pl.*)

(1713.) **P. Langsdorffii**, Fisch.

Alutian and more northern islands, Kotzebue Sound, &c. (*Dr. Gray.*) Behring's Straits. (*Menzies.*) Melville Island. (*Sir E. Parry.*) Greenland. (*Hook. Arct. Pl.*)

Var. **isnata**, Gray.

P. Kanei, Durand in Jour. Acad. Philad. N. Ser. II., 195.

P. arctica, R. Br. App. Parry, 280.

P. Langsdorffii, Macoun's Cat., No. 1300.

Same range as the type on the north-west coast; also Arctic coast and islands, and high northern Rocky Mountains. (*Dr. Gray.*) Summits of Rocky Mountains, abundant. (*Drummond.*) On the summit of Mount Selwyn, Peace River Pass. Lat. 56°. (*Macoun.*) Il-gu-chuz Mountains, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Bear Lake River to the Arctic Sea. (*Richardson.*) Islands of St. George and St. Lawrence, Kotzebue Sound and Arctic coast. (*Rothr. Alask.*) On both sides of Baffin's Bay. (*Capt. Markham.*) Ransselaer Harbor, Lat. 79°; also at various places on Smith's Sound. (*Dr. Kane.*) Lake Beechy, Back's Great Fish River. (*McGill Coll. Herb.*)

(1714.) **P. hirsuta**, Linn.

Arctic sea-coast, and Arctic islands, frequent. (*Capt. Parry.*) On both sides of Baffin's Bay, Melville Island, Navy Board Inlet, and Elwyn Inlet. (*Capt. Markham.*) Back's Great Fish River. (*Capt. Back.*) West of the Mackenzie River, Lat. 71°, Long. 154°. (*Dease.*) East coast of Greenland and Smith's Sound. (*Hook. Arct. Pl.*)

(1715.) **P. flammea**, Linn.

Labrador to the northern Rocky Mountains and northward. (*Dr. Gray.*) Labrador. (*Kolmeister.*) Arctic America. (*Richardson.*)

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Summits of the Rocky Mountains. (*Drummond.*) Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*) Greenland. (*Hook. Arct. Pl.*)

(1716.) **P. versicolor**, Wahl.

Islands of North-west America. (*Hooker.*) Island of St. Lawrence. (*Chamisso.*) Kotzebue Sound and the Island of St. Lawrence. (*Rothr. Alask.*)

(1717.) **P. capitata**, Adams.

P. Nelsonii, R. Br. in Richards. Frankl. App., 743.

P. verticillata, Pursh, Fl. II., 423, not of Linn.

Arctic sea-coast, Kotzebue Sound, Ounalashka, and more northern islands. (*Dr. Gray.*) Arctic seashore and islands. (*Richardson.*) Behring's Straits. (*Langsdorff.*) On both sides of Baffin's Bay and Port Kennedy. (*Capt. Markham.*) Westward of Mackenzie River, Lat. 71°, Long. 154°; also between the Coppermine River and Cape Turn-again, Lat. 67° 54', Long. 115° 31°. (*Dease.*) Near the mouth of Peck's Great Fish River. (*McGill Coll. Herb.*)

36. RHINANTHUS, Linn. (YELLOW-RATTLE.)

(1718.) **R. Crista-galli**, Linn.

R. minor, Ehrh. Beitr. VI., 144.

Newfoundland. (*Morrison.*) Abundant and very common in places, on Bonne Espérance, and found all along the Labrador coast. With *Euphrasia officinalis*, in low, moist but not marshy places. (*W. E. Stearns.*) Very common along rivers and grassy places on the west side of Anticosti, also abundant at Louisburg, North Sydney and Baddack, Cape Breton; at Pictou, Straits of Canso, and Yarmouth, N.S. Certainly indigenous at all those points. (*Macoun.*) Halifax, N.S. Introduced (?) (*Lawson & Sommers.*) Pictou, N.S. (*McKay.*) Oyster Ponds, Guysboro' Co., N.S. (*Ball.*) Common near St. John, north of Miramichi on Bathurst Road; also Blacklands, Restigouche Co., N.B. (*Fowler's Cat.*) Abundant at Campbellton, N.B., along the Bay of Chaleur and up the Gaspé coast and on the mountains to Petit Métis. (*Macoun.*) St. Roch des Aulnais, Q. (*MacLagan.*) Wet meadows in many places, along the St. Lawrence below Quebec. (*Thomas.*) Low meadow at the Pic River, Lake Superior, also in the Bow River Pass and on Peace River at St. John's, and Hudson's Hope, Lat. 54°. (*Macoun.*) From the Saskatchewan to the shores of Slave Lake and to Fort Franklin. (*Richardson.*) Prairies of the Rocky Mountains. (*Drum-*

mond.) Foot Hills between the North and Middle Fork of Old Man River; also Foot Hills of Rocky Mountains, and western side of the water-shed, South Kootanie Pass; Queen Charlotte Islands. (*Dawson.*) Ounalashka. (*Rothr. Alask.*) Greenland, south of the Arctic Circle. (*Hook. Arct. Pl.*)

Var. **major**, Ehrh. (?)

a/. A form which is extremely like this has been collected at Yarmouth, N.S., near the railway station by the writer, and at Metapedia, N.B., by Mr. Fletcher, of the Parliamentary Library. The specimens in question have large yellow flowers, with yellowish bracts, and long narrow leaves; they are taller and more branching than the usual form of *R. Cristifolli*. This may be the introduced plant found at Halifax.

457. MELAMPYRUM, Linn. (COW-WHEAT.)

(1719.) **M. Americanum**, Michx.

M. sylvaticum, Hook. Fl. II., 106.

M. pratense, var. *Americanum*, Benth. in DC. Prodr. X., 584.

M. lineare, Lam. Pursh, Fl. II., 430.

Swamps, grassy thickets, and open sandy woods. Anticosti. Nova Scotia, New Brunswick, Quebec, Ontario and westward to the Coast Range, B.C. The British Columbian specimens have broad nearly hastate leaves, but otherwise the specimens differ very little from those of Anticosti. It is probable that the form growing in peat bogs is distinct from that found in sandy woods, but our present specimens are insufficient to determine that question.

LXXI. OROBANCHACEÆ BROOM-RAPE FAMILY.

458. APHYLLON, Mitchell. (CANCER-ROOT.)

(1720.) **A. uniflorum**, Gray.

Orobanche uniflora, Linn. Pursh Fl. II., 431.

O. biflora, Nutt. Hook. Fl. II., 93.

Anoploanthus uniflorus, Endl. DC. Prodr. XI., 41.

Parasitic on the roots of various plants. Chiefly found on dry sandy soils in open woods. Newfoundland. (*Miss Brenton.*) Nashwaakie, N.B. (*Prof. Fowler.*) Petitcodiac, N.B. (*Brittain.*) Near Kingston Mills, Ont. (*MacLagan.*) On the Rice Lake Plains, near

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Castleton; also at Alnwick, Northumberland Co., Ont. (*Macoun*.) Vicinity of Hamilton, Ont. (*Logie*.) Whirlpool Woods, Niagara Falls. (*David F. Day*.) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Port Stanley, Lake Erie. (*Burgess*.) North shore of Lake Superior. (*Agassiz*.) Parasitic on *Artemisia* roots, Tobacco Plains, Kootanie Valley, B.C. (*Dawson*.) Abundant around Victoria, Vancouver Island. (*Macoun & Hill*.)

(1721.) **A. fasciculatum**, Gray.

Orobanche fasciculata, Nutt. Hook. Fl. II., 93.

Anoplangthus fasciculatus, Walp. DC. Prodr. XI., 41.

Parasitic on the roots of *Artemisia* on sand hills and prairies at Spy Hill and Old Wives Lakes, Assiniboia. (*Macoun*.) On sand along Moose Mountain Creek, Assiniboia. (*J. M. Macoun, C. P. R. Coll.*) Wood End on the 49th parallel; and along Belly River near Fort McLeod; also in the Nicola Valley, B.C. (*Dawson*.) Vicinity of Spence's Bridge, B.C. (*Hill*.)

(1722.) **A. comosum**, Gray.

Orobanche comosa, Hook. Fl. II., 92.

Parasitic on roots of *Compositæ*. Growing on roots of *Grindelia* along the coast at Victoria, Vancouver Island. (*Fletcher*.)

(1723.) **A. Ludovicianum**, Gray.

Orobanche Ludoviciana, Nutt. Hook. Fl. II., 92.

Phelipæa Ludoviciana, Walp. Macoun's Cat., No. 1228.

On arid clay banks, especially along rivers. Plains of the Saskatchewan, rare. (*Drummond*.) On hills west of the Qu'Appelle, banks of Maple Creek, also Gull Lake and banks of creeks at the Hand Hills. (*Macoun*.) Near Irvine Station on the C. P. R., Assiniboia. (*J. M. Macoun*.) On dry hills, Vancouver Island. (*Cowley*.) Along Okanagan Lake, B.C. (*Dawson*.) New Caledonia. (*Douglas*.)

(1724.) **A. pinetorum**, Gray.

Orobanche pinetorum, Geyer in Hook. Kew Journ. Bot. III., 297.

Oregon to British Columbia, on the roots of Fir-trees. (*Gray*.)

459. CONOPHOLIS, Wallr. (SQUAW-ROOT.)

(1725.) **C. Americana**, Wallr.

Orobanche Americana, Linn. Pursh Fl. II., 431.

Rich woods under trees, especially oaks. Thicket near the G. T. R. gravel pit, Prescott, Ont. (*Billings*.) In rich woods, three miles in

rear of Picton, towards West Lake, Prince Edward Co.; rich woods near Madoc village, Hastings Co.; also in oak woods near Clifton, Niagara Falls. (*Macoun.*) Woods behind Cline's Mill, Hamilton, Ont. (*Logie.*) Vicinity of Niagara Falls. (*MacLagan.*) Woods near Westminster Ponds, London, Ont. (*Saunders & Burgess.*) Vicinity of Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Point Albino, Lake Erie. (*David F. Day.*)

460. BOSCHNIAKIA, C. A. Meyer.

(1726.) **B. glabra**, C. A. Meyer.

Orobanche glabra, Hook. Fl. II., 91.

Great Slave Lake to Fort Franklin on the Mackenzie River. (*Richardson.*) North-west coast of America. (*Menzies.*) Aleutian Islands and east to Slave Lake. (*Gray.*) Sitka and Kotzebue Sound. (*Rothr. Alaska.*) Pyramid Harbor, Alaska. (*Meehan.*)

(1727.) **B. Hookeri**, Walp.

Orobanche tuberosa, Hook. Fl. II., 92.

North-west coast of America. (*Menzies.*) Not seen since. (*Gray.*)

461. EPIPHECUS, Nutt. (BEECH-DROPS.)

(1728.) **E. Virginiana**, Bart. Cancer-root.

E. Americana, Nutt. Hook. Fl. II., 93.

Orobanche Virginiana, Linn. Pursh Fl. II., 431.

Under beech trees in thick woods. North Woods, near Annapolis, N.S. (*Macoun.*) Near Bedford, N.S. (*Lawson.*) Woods, Picton Co., N.S. (*McKay.*) A parasitic plant on the roots of beech-trees, rather rare in New Brunswick. (*Fowler's Cat.*) Rather common in beech woods both in Quebec and Ontario. As it flowers late in deep cool woods, many collectors overlook it.

LXXII. LENTIBULARIACEÆ. BLADDER-WORT FAMILY.

462. UTRICULARIA, Linn. (BLADDER-WORT.)

(1729.) **U. clandestina**, Nutt.

U. striata, Tuckerm. in Am. Journ. Sci. xlv., 29.

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Shallow water of a small lake near Richibucto, Kent Co., N.B. (*Fowler's Cat.*) Little Rocher, Albert Co., N.B. (*Brittain.*)

(1730.) **U. inflata**, Walt.

U. ceratophylla, Michx. Pursh Fl. I., 15.

Floating in still water in Lower Canada. (*Pursh.*)

(1731.) **U. vulgaris**, Linn. Var. **Americana**, Gray.

Abundant in ditches and slow streams and lakes from the coast of the Atlantic to the Pacific and far northward. Above all other carnivorous plants this species has attained an unenviable notoriety by its successful trapping, of very young fish, in the small utricles so plentifully scattered over its floating stems.

(1732.) **U. minor**, Linn.

U. setacea, Michx. Hook. Fl. II., 118.

U. subulata, Pursh, Fl. I., 15, Canadian habitat.

Canada. (*Pursh.*) Barren specimens, apparently of this species, were gathered by Mr. Drummond near the Saskatchewan. (*Hooker.*) Shallow still waters. Canada to the Saskatchewan and west to British Columbia. (*Gray.*) Greenland. (*Hook. Arct. Pl.*) Drummond's specimens were very likely *U. intermedia*.

(1733.) **U. gibba**, Linn.

U. minor, Torr. Fl. N.Y. II., 21, not Linn.

Shallow water on mud at the eastern end of Partridge Lake, Anglesea township, Addington Co., Ont. (*Macoun.*)

(1734.) **U. intermedia**, Hayne.

Abundant in shallow water creeping over the soft mud. Newfoundland. (*Gray.*) Wet places in peat bogs, Anticosti; peat bog near North Sydney, and at Louisburg, Cape Breton; bogs along the Gaspé coast. (*Macoun.*) St. Patrick, Charlotte Co., N.B. (*Vroom.*) Otty's Lake, near Hampton, N.B. (*Brittain.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Vicinity of London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*) In a small marsh near Picton, Prince Edward Co.; beaver meadows, North Hastings, Peterboro' and Victoria counties, Ont.; marshes at Chicken Bay, Lake Huron; marshes at the mouth of the Kaministiquia, along the north shore of Lake Superior and around Lake Nipigon; also in marshes along the base of the Porcupine Mountain, Man. (*Macoun.*) Lake Huron. (*Dr. Todd.*) Lake Winnipeg to Bear Lake. (*Richardson.*) Near the Rocky Mountains. (*Drummond.*)

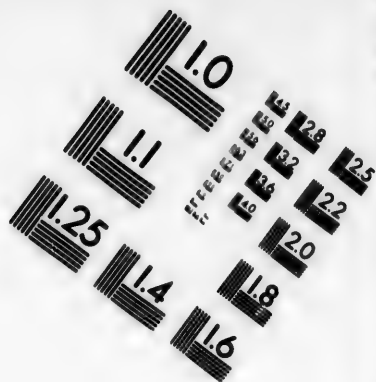
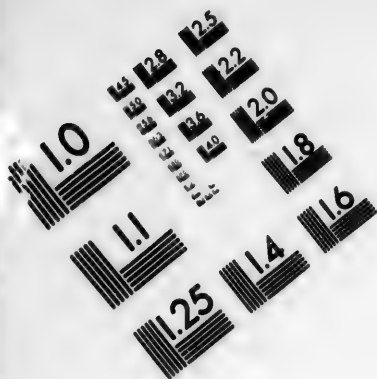
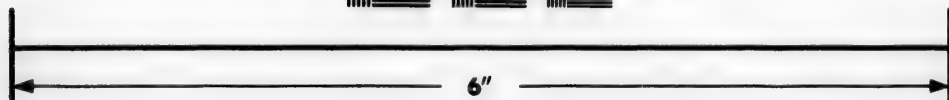
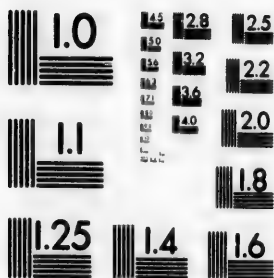


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(1735.) **U. resupinata**, B. D. Greene.

Sandy bogs and borders of ponds. Specimens of a purple flowered *Utricularia* (referred here) were picked up in a sandy bog at the head of South Lake, Snowden, Victoria Co., in August, 1868, but were not examined. Since then the locality has not been visited.

(1736.) **U. cornuta**, Michx.

Sphagnous or sandy swamps from Newfoundland to Lake Superior. (Gray.) Common in peat bogs, Anticosti, and along the Gaspé coast; also in a peat bog at North Sydney, Cape Breton. (Macoun.) Near Bedford, N.S. (Lawson.) Lunenburg, N.S. (Ball.) Grand Lake, Halifax Co., N.S. (McKay.) Common in peat bogs, N.B. (Fowler's Cat.) Very abundant along Gull River between Big and Little Bushkong Lakes, south of the Colonization road; marshes at Chicken Bay, Lake Huron; also in a marshy spot at McIntyre's Bay, Lake Nipigon. (Macoun.) Marshes at Westminster pond, near London, Ont. (Saunders.) Very common in the Muskoka District. (Burgess.) Niagara Falls, Canadian side. (David F. Day.) In mud on the edge of a marshy bay, Pancake River, Lake Huron. (J. Bell.) Around the Gas Spring in the Mer Bleue, near Ottawa. (Fletcher.)

463. PINGUICULA, Linn. (BUTTER-WORT.)(1737.) **P. villosa**, Linn.

P. acutifolia, Michx. Fl. L., 11. Pursh Fl. L., 15.

In shady woods, near rivers about Lake Mistassini. (Pursh.) I suspect this is *P. vulgaris*. (Macoun.) Labrador, Hudson Bay, northern islands and shores of the North-west coast. (Gray.) Islands of Chamisso and Ounalashka; also Norton Sound. (Rothr. Alask.)

(1738.) **P. alpina**, Linn.

Labrador. (Steinhauer.) Not elsewhere detected in America. (Gray.)

(1739.) **P. vulgaris**, Linn.

P. grandiflora, Hook. Fl. II., 118. Macoun's Cat., 1227.

P. microceras, Willd. Rothr. Alask., page 450.

P. macroceras, Cham. Rothr. Alask., page 450.

Wet rocks along rivers, lakes and sea-coasts. Newfoundland. (Miss Brenton.) Labrador coast. (Butler.) Ungava Bay, Labrador. (Mrs. Lizzie Crawford.) Anticosti and Mingan Islands, abundant. (Verrill.) Along the south-west coast of Anticosti; also on the Gaspé coast near

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Cape Rosier, and up the Madaline River. (*Macoun.*) Along the Dartmouth River, Gaspé Basin. (*Dr. J. Bell.*) Little Métis and Alymer, Q. (*McGill Coll. Herb.*) Sand at Humber ponds, near Toronto. [*?*] (*Taylor.*) Shore of Lake Huron at Southampton. (*Burgess.*) Shore of Red Bay, Lake Huron; rocks along the coast of Lake Superior from Michipicotin to Red Rock, and on the island of St. Ignace; also abundant on Huronian slates on the east coast of Lake Nipigon; and along the Bow River at Morley. (*Macoun.*) Cañon of North Branch of Elbow River, Rocky Mountains. (*Dawson.*) Woody and barren regions north to Mackenzie River. (*Richardson.*) Swamps near Miet's Rock in the Rocky Mountains, rare. (*Drummond.*) Millbank Sound, North-west Coast. (*Dr. Tolmie.*) Alaskan coast and islands, and northward. (*Gray.*) Sitka and Ounalashka. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*) Greenland. (*Hook. Arct. Pl.*)

LXXIII. BIGNONIACEÆ. BIGNONIA FAMILY.

464. *TECOMA*, Juss. (TRUMPET-CREEPER.)

(1740.) *T. radicans*, Juss.

This species is either indigenous on Pelee Island and Pelee Point, Lake Erie, or it has become so naturalized as to run wild, and appear to be native. It is quite hardy eastward as far as Belleville and Prince Edward Co., and bears the winter cold without being taken off the trellis.

LXXIV. ACANTHACEÆ. ACANTHUS FAMILY.

465. *DIANTHERA*, Linn. (WATER-WILLOW.)

(1741.) *D. Americana*, Linn.

Justicia pedunculosa, Michx. Fl. I., 7.

In bays and slow flowing waters of the River St. Lawrence. (*Pursh.*) Mouth of the St. Pierre River, near Montreal. (*Holmes.*) Lachine, St. Helen's Island, Montreal; also at Chippawa, Niagara River. (*MacLagan.*) In the Niagara River above the Falls. (*Burgess.*)

LXXV. SELAGINACEÆ. SELAGO FAMILY.

466. CYMNANDRA, Pall.

(1742.) **C. Gmelini**, Cham. & Schl.*Bartsia Gymnandra*, Willd. Pursh Fl. II., 430, doubtful.Unalashka, Popoff Islands, &c. (Gray.) St. Lawrence Island. [?]
(Rothr. Alaska.)(1743.) **C. Stelleri**, Cham. & Schl.Kotzebue Sound, at Immarook. (Lay & Collie.) Perhaps Island of
St. Lawrence. (Chamisso.) St. Paul's Island. (Elliott.) Coast of
the Arctic Sea. (Richardson.)

LXXVI. VERBENACEÆ. VERBENA FAMILY.

467. PHRYMA, Linn. (LOPSEED.)

(1744.) **P. Leptostachya**, Linn.In low places along small brooks not common. Andover, N. B.
(Wetmore.) Lower Norton, N.B. (Brittain.) Keswick Ridge, N.B.
(Fowler & Hay.) Vicinity of Ottawa. (Fletcher Fl. Ott.) Montreal
Mountain and St. Rémi, Q. (McGill Coll. Herb.) Savanne, Q., 1821.
(Holmes.) Mirwin's Woods, near Prescott, Ont. (Billings.) Along
the Nation River at Casselman, on the Canada Atlantic Railway;
rich damp woods and along woodland brooks, in Hastings and Prince
Edward counties; brook sides near Castleton, Northumberland Co.,
Ont.; also at Owen Sound. (Macoun.) Woods west of Hamilton, Ont.
(Logie.) Wolfe Island, near Kingston, St. Catharines, and Malden.
(MacLagan.) Vicinity of London, Ont. (Burgess.) Point Albino,
Lake Erie. (David F. Day.)

468. VERBENA, Linn. (VERVAIN.)

(1745.) **V. urticæfolia**, Linn. Nettle-leaved Vervain.Waste places, roadsides and old pastures, appearing as if introduced
but certainly indigenous. Keswick Ridge, N.B. (Moser.) St. Rémi,

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Q. (*McGill Coll. Herb.*) Roadside, Côté St. Antoine, and other localities near Montreal, 1821. (*Holmes.*) Valley of the St. Charles, near Quebec. (*Thomas.*) Not uncommon in Ontario extending west to Owen Sound.

(1746.) **V. hastata**, Linn.

V. hastata, var. *pinnatifida*, Lam. Pursh Fl. II., 416.

V. paniculata, Lam. Pursh Fl. II., 416. Hook. Fl. II., 117.

Chiefly in waste grounds and in low pastures along streams. Common from Nova Scotia, New Brunswick and Quebec westward throughout Ontario to the Sault Ste. Marie. (*Macoun.*) Rainy River, Ont. (*Dawson.*) Abundant on Lake Winnipeg. (*J. M. Macoun.*) Canada to the Saskatchewan. (*Richardson.*) Low alluvial soils Northwest coast. (*Douglas.*) Spillimacheen, B.C. (*Hill.*)

(1747.) **V. angustifolia**, Michx.

V. rugosa, Willd. Pursh Fl. II., 417.

On dry limestone soils locally abundant. Island above Nun's Island, Montreal. 1821. (*Holmes.*) St. Helen's Island, Montreal. (*MacLagan.*) Abundant in dry rocky fields around Belleville, and on rocky ground at Shannonville station, G.T.R.; also very common in the open woods on Massassaga Point, Prince Edward Co. (*Macoun.*) Strathroy, and Port Colborne, Ont. (*McGill Coll. Herb.*) Vicinity of Whitby, Ont. (*Burgess.*)

(1748.) **V. bracteosa**, Michx.

On dry prairies apparently very rare. Collected on the high prairie north of the Saskatchewan near the forks of the Red Deer and Saskatchewan rivers. August 8th, 1879. (*David Macoun.*)

LXXVII. LABIATÆ. MINT FAMILY.

469. ISANTHUS, Michx.

(1749.) **I. cæruleus**, Michx.

Moffit's Island, Montreal. (*MacLagan.*) Abundant on limestone shingle on both sides of the Bay of Quinte, both above and below Belleville; also abundant on gravel at Heely Falls, Northumberland Co., Ont. (*Macoun.*) Vicinity of Westminster, near London, Ont. (*Miss Crooks.*) Crevices of rocks, Bobcaygeon, Ont. (*Saunders.*)

470. TEUCRIUM, Linn. (GERMANDER.)

(1750.) **T. Canadense**, Linn.

Amongst gravel along rivers and small streams. Sand-beach at Kouchibouguac, N.B. (*Fowler's Cat.*) West River, Pictou Co., N.S. (*Lindsay.*) Boucherville Island, near Montreal. 1820. (*Holmes.*) Beauharnois Co., Q., and near Ottawa, Ont. (*McGill Coll. Herb.*) St. John's River, below the village of Sillery, Q. (*Shepperd.*) Vicinity of Ottawa, and at Casselman, on the Nation River, 30 miles from Ottawa. (*Fletcher.*) Conway's Creek at the crossing of the Brockville Road, Ont. (*Billings.*) On islands in the St. Lawrence, below Kingston; common along the Bay of Quinte and in crevices of damp rocks along the Moira and Trent rivers, Ont. (*Macoun.*) Burlington Heights, near Desjardins Canal, Hamilton, Ont. (*Logie.*) Chippawa, St. Catharines, and islands in Detroit River. (*MacLagan.*) Vicinity of London. (*Saunders & Burgess.*) A white flowered variety at Point Albino, Lake Erie. (*David F. Day.*)

471. AJUCA, Linn.

(1751) **A. reptans**, Linn. Common Bugle.

Sparingly introduced in fields near Montreal. (*MacLagan.*)

472. COLLINSONIA, Linn. (HORSE-BALM.)

(1752.) **C. Canadensis**, Linn. Horse-weed.

Rich low woods, western Ontario. Abundant in St. James' cemetery, Toronto; also in various places in the vicinity of Niagara Falls. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Chippawa, Dundas and Malden. (*MacLagan.*) Border of a field, two miles west of London. (*Saunders & Burgess.*) Rich woods near Strathroy, Ont. (*McGill Coll. Herb.*) Rich moist woods, Woodstock, N.B. (*Hay.*) [?]

473. MENTHA, Linn. (MINT.)

(1753.) **M. viridis**, Linn. Spearmint.

Escaped from cultivation in the neighborhood of old settlements. Vicinity of Halifax, N.S. (*Sommers.*) Baltimore, Albert Co., N.B.

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(*Brittain.*) Common at Rivière-du-Loup, Q. (*Thomas.*) Durham Montreal and Knowlton, Q.; and Port Colborne, Ont. (*McGill Coll. Herb.*) Roadside, College Hill, Belleville; roadside near Warkworth, Northumberland Co., Ont., and very abundant in waste places at Owen Sound. (*Macoun.*) Common along roadsides in the Niagara District. (*MacLagan.*) London and Niagara Falls. (*Burgess.*) Vicinity of Toronto. (*Fowler.*)

(1754.) **M. piperata**, Linn. Peppermint.

Along brooks in old settlements. *Escaped* from cultivation. Vicinity of Halifax, N.S. (*Sommers.*) In the neighborhood of Pictou, N.S. (*McKay.*) On waste places by a brook at Truro, N.S. (*Macoun.*) Sparingly *escaped* from gardens, N.B. (*Fowler's Cat.*) In ditches half way between Castleton and Colborne, and in a small brook half a mile east of Hilton, Northumberland Co., Ont. (*Macoun.*) Common in the vicinity of London, Ont. (*Saunders & Burgess.*) Brooks and ditches, Ottawa. (*Fletcher Fl. Ott.*) St. Andrews, St. Rémi, Knowlton, Q., and Coldstream, Ont. (*McGill Coll. Herb.*)

(1755.) **M. aquatica**, Linn. Water-mint.

Wet places, *introduced*. Near Truro, N.S. (*Lindsay.*)

(1756.) **M. arvensis**, Linn. Corn-mint.

In cultivated fields, *introduced* at Norton, N.B. (*Fowler's Cat.*)

(1757.) **M. sativa**, Linn. Whorled-mint.

Damp waste places, *escaped* from cultivation. Vicinity of Pictou, N.S. (*McKay.*) *Escaped* from gardens, N.B. (*Fowler's Cat.*)

(1758.) **M. Canadensis**, Linn. Canada-mint.

Wet places along streams, in meadows and low places generally from the Atlantic to the Pacific, and northward to the Mackenzie River.

Var. **glabrata**, Benth.

M. borealis, Michx. Fl. II., 2.

The glabrous and more northern form. Specimens passing into this form are met with in all the northern forest. Rather rare in New Brunswick, met with at St. John and Restigouche. (*Fowler's Cat.*) Vicinity of Ottawa, (*Fletcher Fl. Ott.*) East coast of Hudson Bay. (*R. Bell.*) Turtle Mountain, 49th parallel. (*Burgess.*) Eagle Hills, south of Battleford, N.W.T. (*Macoun.*) Elk River, Kootanie Valley, B.C. (*Dawson.*) Washow Bay, west side of Lake Winnipeg. (*J. M. Macoun.*)

474. LYCOPUS, Linn. (WATER HOREHOUND.)

(1759.) **L. Virginicus**, Linn. Bugle-weed.

L. pumilus, Vahl. Pursh Fl. I., 16.

Mentha uniflorus, Michx. Fl. I., 14.

Low wet woods and by brooks from Labrador across the forest country to British Columbia.

(1760.) **L. lucidus**, Turcz. Var. **Americanus**, Gray.

L. obtusifolius, Vahl. Hook. Fl. II., 111.

Abundant in low damp or boggy places from Point du Chêne westward throughout Manitoba; especially on borders of ponds at St. Boniface, near Portage La Prairie, and at Long Lake, near Qu'Appelle. (*Macoun*.) Hudson Bay. (*Michaux*.) Red River. (*Douglas*.) Carlton House Fort on the Saskatchewan. (*Drummond*.)

(1761.) **L. sinuatus**, Ell.

L. Europæus, var. *sinuatus*, Gray, Man. Macoun's Cat., No. 1315.

Quite common from the Atlantic westward to the Pacific. This species is very easily separated from *L. Virginicus*, by noticing the cuspidate calyx teeth. Its leaves vary considerably, but all our forms are referable to one species.

475. HYSSOPUS, Linn. (HYSSOP.)

(1762.) **H. officinalis**, Linn. Garden Hyssop.

Abundant in a few localities, around towns and villages. *Escaped* from gardens. Very abundant near the St. Lawrence and Ottawa Railway station, Ottawa. Chiefly the white flowered variety. (*Fletcher*.) Waste places along the Salmon River a little east of Shannonville, and on waste heaps around Belleville, Ont. (*Macoun*.)

476. PYCNANTHEMUM, Michx. (MOUNTAIN MINT.)

(1763.) **P. lanceolatum**, Pursh.

Dry soils rather rare. Nun's Island, near Montreal. 1821. (*Holmes*.) On the shore of Lake Ontario at Weller's Bay; also in sandy swamps at Point Edward, near Sarnia. (*Macoun*.) Sandy soil, Rice Lake Plains.

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(*Dr. Poole.*) Thorold and Malden, Ont. (*MacLagan.*) Vicinity of London, Ont. (*Burgess.*) Strathroy, Ont. (*McGill Coll. Herb.*)

(1764.) **P. incanum**, Michx.

On dry soil. Reported from western Ontario, Canada. (*Goldie.*) New England to western Canada. (*Gray.*) Vicinity of Hamilton, Ont. (*Logie.*) We have never seen a Canadian specimen.

477. **ORIGANUM**, Linn. (WILD MARJORAM.)

(1765.) **O. vulgare**, Linn.

Abundant on the sandy railroad track and in thickets at Hawkstone, Ont. Completely *naturalized*. (*Burgess.*)

478. **THYMUS**, Linn. (THYME.)

(1766.) **T. Serpyllum**, Linn. Creeping Thyme.

Old fields and pastures. *Naturalized* in an old field at Truemanville, N.S. (*Trueman.*) Greenland. (*Hook. Arct. Pl.*)

479. **SATUREIA**, Linn. (SAVORY.)

(1767.) **S. hortensis**, Linn. Summer Savory.

Cultivated as a sweet-herb, and escaped to dry sandy soil in a few localities. Found growing on a railway embankment near Hillsborough, N.B. (*Brittain.*) Very abundant on the sands of Presqu'île Point, Lake Ontario, and occasionally in waste places around Belleville. (*Macoun.*) *Naturalized* in places near Parkdale, Toronto. (*Fowler.*)

480. **MICROMERIA**, Benth.

(1768.) **M. Douglasii**, Benth. Yerba Buena.

Frequent in shady pine woods, North-west America. (*Menzies.*) In woods near Victoria, Vancouver Island. (*J. Richardson & Fletcher.*)

481. CALAMINTHA, Mœench. (CALAMINT.)(1769.) **C. Nuttallii**, Benth.*C. glabella*, var. *Nuttallii*, Gray, Man. Ed. V., 349. Macoun's Cat., No. 1321.*Micromeria glabella*, Benth. Hook. Fl. II., 113.

On rocks at the foot of the cataract, Niagara Falls; also shore of Lake Huron at Red Bay. (*Macoun.*) Niagara Falls. (*MacLagan & Burgess.*) Observed along the shore of Lake Erie, in rocky places, from Fort Erie to Point Albino. (*David F. Day.*) Limestone points along Lake Erie. (*McGill Coll. Herb.*) Shore of flat limestone rock on both east and west sides of La Cloche Island, Georgian Bay. (*J. Bell.*) Niagara Falls to Lake Superior. (*Gray.*)

(1770.) **C. Clinopodium**, Benth. Basil.*C. vulgare*, Pursh Fl. II., 410.*Melissa Clinopodium*, Benth. Hook. Fl. II., 114.

Borders of fields and rocky thickets amongst grass. Vicinity of Pictou and Dalhousie, N.S. (*McKay.*) Open hillsides on the Restigouche, N.B. (*Fowler's Cat.*) Bank of the Rideau River, near Ottawa; also in Bosanquet, Huron Co. (*McGill Coll. Herb.*) On rocky ground quite common in the vicinity of Ottawa, and thence westward throughout Ontario as far west as the Sault Ste. Marie. (*Macoun.*) Canada, in various places. Norway House Fort, Lake Winnipeg. *Introduced.* (*Richardson.*) It is certainly indigenous in every part of Ontario, but may be introduced in the Maritime provinces.

482. MELISSA, Linn. (BALM.)(1771.) **M. officinalis**, L. Common Balm.

On waste ground, Pelee Island, Lake Erie. Apparently *naturalized.* (*Macoun.*) Well established at one or two places, Niagara Falls. (*Burgess.*)

483. HEDEOMA, Pers. (PENNY ROYAL.)(1772.) **H. pulegioides**, Pers. American Penny-royal.

On rich damp soil in shady woods. In woods near North Sydney, Cape Breton. (*Macoun.*) Dalhousie, and on sea beaches at Pictou, N.S.

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(*McKay*.) In a waste field at Green Head, St. John, N.B. (*Fowler's Cat.*) St. Remi, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Roadside, two miles west of Prescott, Ont. (*Billings*.) In woods, two miles west of Belleville; also in shaly woods near Hilton, Northumberland Co., Ont. (*Macoun*.) Vicinity of Hamilton, Ont. (*Logie & Burgess*.) Thorold and Malden, Ont. (*MacLagan*.) Common ten miles west of London, Ont. (*Saunders*.)

(1773.) **H. hispida**, Pursh.

Very abundant on limestone gravel at Belleville, Ox Point, and Massassaga Point, Bay of Quinte, frequent at other points along the bay; also at Heely Falls on the Trent, Northumberland Co., Ont. Common on dry soil at the Red Deer Lakes, Bad Hills and Hand Hills west of the South Saskatchewan; also in some abundance on the dry prairie west of Old Wives Lakes. (*Macoun*.)

484. MONARDA, Linn. (HORSE-MINT.)

(1774.) **M. didyma**, Linn. Bee Balm.

M. Kalmiana, Pursh Fl. I., 17.

M. coccinea, Michx. Fl. I., 16.

Low rich soil, rather rare in western Ontario. Common in the vicinity of London, Ont. (*Saunders & Burgess*) Near Mount Forest, Ont. (*Logie*.) In the neighborhood of Bayfield, Lake Huron. (*John Gibson*.) Moist woods by Sydenham River, Lambton Co., Ont. (*McGill Coll. Herb.*)

(1775.) **M. clinopodia**, Linn.

M. rugosa, Ait. Pursh Fl. I., 17.

Pycnanthemum Monardella, Michx. Fl. II., 8.

Western Canada to Illinois. (*Gray*.) We know nothing of this species as a Canadian plant.

(1776.) **M. fistulosa**, Linn. Oswego Tea.

M. allophylla, Michx. Fl. I., 16.

M. oblongata, Ait. Pursh Fl. I., 18.

Dry gravelly soil, in oak and pine forests. Bank of the St. Lawrence, half a mile west of Prescott, and occasionally throughout the country, rather rare. (*Billings*.) Common on all suitable soils throughout the southern and western counties of Ontario, extending to Lake Superior.

Var. **mollis**, Benth.

This variety is exceedingly common throughout the whole prairie region, wherever there is brush, and extends westward through the Rocky Mountains to the interior of British Columbia at Spence's Bridge. (*Hill*.)

(1777.) **M. punctata**, Linn. Horse-mint.

M. lutea, Michx. Fl., 16.

Bellhouse Farm, East Flambro', Ont. (*Logie*.) We are very doubtful of the occurrence of this species.

485. BLEPHILIA, Rafn.

(1778.) **B. hirsuta**, Benth.

Monarda hirsuta, Pursh. Fl. I., 19.

M. ciliata, Michx. Fl. I., 16, not Linn.

Moist shady places, Canada and Vermont. (*Gray*.) Vicinity of Brome Lake, Eastern Townships, Q. (*McGill Coll. Herb*.)

486. LOPHANTHUS, Benth.

(1779.) **L. nepetoides**, Benth.

Hyssopus nepetoides, Willd. Pursh Fl. II., 406.

Borders of woods and along river margins. Montreal Mountain, 1821. (*Holmes*.) Along the Nation River at Casselman station, Canada Atlantic Railway, 30 miles from Ottawa. (*Fletcher*.) Along the railway between Niagara Falls and Lake Ontario. (*Macoun*.) Chippawa and Malden, Ont. (*MacLagan*.) Fields near Cove, vicinity of London, not uncommon. (*Saunders & Burgess*.) Fort Erie and Albino Point, Lake Erie. (*David F. Day*.)

(1780.) **L. scrophulariæfolius**, Benth.

Hyssopus scrophulariæfolius, Willd. Pursh Fl. II., 406.

Borders of thickets along the slopes of Queenston Heights, one mile beyond Queenston station. (*Macoun*.)

(1781.) **L. anisatus**, Benth.

Stachys feniculum, Pursh Fl. II., 407.

This species is found as far east as Rainy Lake and extends westward throughout the prairie region, but particularly in the copse wood on

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the margin of the great prairies; in the Peace River region, it is very abundant, north to Lake Athabasca. (*Macoun.*) Plains of Saskatchewan, abundant, to Fort Franklin on the Mackenzie River. (*Richardson.*) Assiniboine River. (*Douglas.*) Dog Head, Lake Winnipeg; Selkirk and along the C. P. R. west of Brandon. (*J. M. Macoun.*)

487. *NEPETA*, Linn. (OAT-MINT.)

(1782.) *N. Cataria*, Linn. Catnip.

Naturalized and very common, on roadsides, along fences, in old gardens and around old buildings both in town and country. There are no settlements in Ontario, where it does not appear. Rare in the eastern provinces.

(1783.) *N. Glechoma*, Benth. Ground Ivy.

Glechoma hederacea, Willd. Pursh Fl. II., 408.

Escaped from gardens and commonly found around fences and amongst stones. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) Escaped from gardens at Pictou, N.S. (*McKay.*) Abundant at Truro and Windsor, N.S. (*Macoun.*) Vicinity of Halifax, N.S. (*Lindsay.*) Abundant on roadsides, and about dwellings, between Shediac and Shemogue, N.B. (*Fowler's Cat.*) Montreal Mountain, and Durham, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Along fences in London, Ont. (*Burgess.*) Very common on waste places, in gardens, and along the streets at Sarnia and Amherstburgh, Ont. (*Macoun.*)

488. *DRACOCEPHALUM*, Linn. (DRAGON-HEAD.)

(1784.) *D. parviflorum*, Nutt.

This species seems to extend eastward only to the neighborhood of Ottawa, but in north-western Ontario it is very plentiful. Its usual habitat is in recently burnt woods, where the land is only partly cleared, or sparsely timbered. In such localities it extends west to the Pacific, and northward to Fort Franklin on the Mackenzie River. Fort Youcon, Alaska. (*Rothr. Alask.*)

489. SCUTELLARIA, Linn. (SKULLCAP.)

(1785.) **S. lateriflora**, Linn. Mad-dog Skulleap.

Wet borders of streams from Newfoundland, Anticosti and the eastern provinces to the Pacific, and northward to Lake Athabasca.

(1786.) **S. canescens**, Nutt.

S. serrata, Pursh, Fl. IL, 413.

River banks, western Ontario. (*Gray.*) Canada. (*Goldie.*) We have no knowledge of Canadian localities for this species.

(1787.) **S. parvula**, Michx.

River banks, amongst sand or gravel. Halifax, N.S. (*Sommers.*) (Doubtful.) Grosse Isle, River St. Lawrence. (*Shepperd.*) St. Helen's and Moffitt's islands, Montreal. (*MacLagan.*) Montreal Mountain, below Priests' Farm, 1821. (*Holmes.*) On rocks in the vicinity of Ottawa. (*Fletcher Fl. Ott.*) Wet rocky ground along the Moira above Belleville; also on both sides of the Bay of Quinte below Belleville, and in crevices of rocks at Heely Falls on the Trent, Northumberland Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) On sands, Pelee Point, Lake Erie. (*Burgess & Macoun.*) Point Albino, Lake Erie. (*David F. Day.*) Vicinity of Toronto. (*Fowler.*) Islands east of Mississauga River, Georgian Bay. (*J. Bell.*) Saskatchewan. (*Richardson.*)

(1788.) **S. angustifolia**, Pursh.

Moist ground, British Columbia. (*Gray.*) Near the sources of the Columbia River. (*Douglas.*)

(1789.) **S. galericulata**, Linn.

Wet soil, either in woods, swamps or along rivers, from Newfoundland, Anticosti and the eastern provinces to the Pacific, and north to Fort Franklin on the Mackenzie River.

490. BRUNELLA, Linn. (SELF-HEAL.)

(1790.) **B. vulgaris**, Linn.

Prunella vulgaris, Linn. Pursh Fl. IL, 411.

Abundant in pastures, by roadsides and in meadows; also in wet places in woods and by small streams, throughout the country, extend-

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ing from the Atlantic to the Pacific. It is probable there are two forms in the east where there may be an introduced one, but the western and Ontario form is certainly indigenous. Sitka and Ounalashka. (*Rothr. Alask.*)

491. **PHYSOSTEGIA**, Benth. (FALSE DRAGON-HEAD.)

(1791.) **P. Virginiana**, Benth.

Dracocephalum Virginianum, Willd. Pursh Fl. II., 411.

D. variegatum, Vent. Pursh Fl. II., 411.

Wet grounds along streams. St. John's, Q. (*MacLagan.*) Small island opposite Point St. Charles, Montreal, 1821. (*Holmes.*) On a small island near St. Annes, Q.; on Toronto Island, and at Chatham, Ont. (*McGill Coll. Herb.*) On sandy points extending into Brighton Bay, Presqu'île Point, Lake Ontario. (*Macoun.*) Point Albino, Lake Erie. (*David F. Day.*) Abundant at Point du Chêne, Man. (*Macoun.*) Turtle Mountain, 49th parallel. (*Dawson.*) Very common on islands in Lake Winnipeg and amongst rocks on both sides of the lake; also along the Souris River south of Moose Mountain. (*J. M. Macoun.*)

(1792.) **P. parviflora**, Nutt.

P. Virginiana, Benth. Var. β . Hook. Fl. II., 116.

Banks of streams, Saskatchewan to British Columbia. (*Gray.*) Plains of the Saskatchewan. (*Drummo. d.*) In the bed of Little Arm Creek, near its source, Assiniboia. (*Macoun.*) Margin of Little Shuswap Lake, B. C. (*Dawson.*) Along the Thompson River at Spence's Bridge, B.C. (*Hill.*)

492. **MARRUBIUM**, Linn. (HOREHOUND.)

(1793.) **M. vulgare**, Linn.

Escaped from gardens, into waste places around dwellings. Common in the neighborhood of London. (*Burgess & Saunders.*) Roadsides, St. Catharines and Malden, Ont. (*MacLagan.*) Roadsides in numerous places in Prince Edward, Hastings and Northumberland counties, Ont.; also along roadsides at Owen Sound. (*Macoun.*) Parkdale near Toronto. (*Fowler.*) Aldsboro', Ont. (*McGill Coll. Herb.*) Streets of Victoria, Vancouver Island. (*Fletcher.*)

493. LEONURUS, Linn. (MOTHERWORT.)

(1794.) **L. Cardiaca**, Linn. Common Motherwort.

Waste and cultivated ground, in gardens and manured soil. This species is completely *naturalized* in all the older provinces, but does not become a weed, except around dwellings.

494. LAMIUM, Linn. (DEAD-NETTLE.)

(1795.) **L. amplexicaule**, Linn. Henbit Dead-nettle.

Introduced into gardens by means of seeds, in a few localities. St. Andrews, N.B. (*Vroom.*) Shelving clay banks of the St. Lawrence, a mile west of Prescott. (*Billings.*) A weed in gardens at Belleville, Ont. (*Macoun*) Rather rare in gardens at Ottawa. (*Fletcher Fl. Ott.*) Gardens in Kingston, Ont. (*Burgess.*)

(1796.) **L. purpureum**, Linn. Red Dead-nettle.

On ballast heaps at North Sydney, Cape Breton, and Pictou, N.S. (*Macoun.*) *Introduced* in ballast.

(1797.) **L. album**, Linn. White Dead-nettle.

Sparingly *introduced* at Hamilton, Ont. (*Buchan.*)

495. CALEOPSIS, Linn. (HEMP-NETTLE.)

(1798.) **C. Tetrahit**, Linn. Common Hemp-nettle.

A very common weed around barns, and in rich damp soil in grain fields. *Naturalized* in all the settled parts of Canada. Sitka. (*Meehan.*)

(1799.) **C. Ladanum**, Linn. Hemp-nettle.

Introduced in ballast at St. John, N.B. (*Hay*)

496. STACHYS, Linn. (WOUNDWORT.)

(1800.) **S. palustris**, Linn.

S. aspera, Michx. Fl. II., 4, in part.

Wet ground from Newfoundland to the Pacific. (*Gray.*) Along all rivers and small streams in the eastern provinces and Ontario, but

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in the prairie region quite common around small ponds or marshy spots; common in the Rocky Mountains and British Columbia. North to Fort Franklin on the Mackenzie River. (*Richardson.*)

(1801.) ***S. aspera***, Michx.

S. hispida, Pursh Fl. II., 407.

S. palustris, var. *aspera*, Gray, Man. Ed. V., 358.

Apparently rare in Ontario and confined to the western part. Vicinity of London, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*)

(1802.) ***S. ciliata***, Dougl.

Oregon to British Columbia, along the coast in damp shady places. (*Gray.*) In the vicinity of Victoria, Vancouver Island. (*Fletcher & Meehan.*) In woods near Port Moody, B.C. (*Hill.*)

Var. ***pubens***, Gray.

Washington Territory to Fraser River, B.C. (*Gray.*) Queen Charlotte Islands. (*Dawson.*)

LXXVIII. PLANTAGINACEÆ. PLANTAIN FAMILY.

497. **PLANTAGO**, Linn. (PLANTAIN)

(1803.) ***P. cordata***, Lam.

P. Kentuckensis, Michx. Fl. I., 94.

P. data, Pursh Fl. I., 98.

Along streams, Canada. (*Pursh.*) Malden, Ont. (*MacLagan.*) Ditches and swamps along the Canada Southern Railway, at Colchester station, near Amherstburgh. (*Macoun.*)

(1804.) ***P. major***, Linn. Common Plantain.

Naturalized in all the older settlements throughout Canada. Besides the introduced form there is an indigenous one, which is always found along the margins of rivers or lakes, generally in damp crevices of rocks, or amongst gravel. This form is common from Lake Superior westward, and is particularly abundant along small streams in the prairie region. It has also been collected in the Kootanie Valley, B.C., by Dr. G. M. Dawson.

Var. **Asiatica**, Decaisne.

A very large indigenous form along the Pacific Coast from California to British Columbia, and from the Saskatchewan to the Arctic Sea. (*Gray*.) Fort Wrangel, Alaska. (*Meehan*.) It is probable that our large leaved form from the prairie region may be this variety, but we have no certainty of this.

Var. **minima**, Decaisne.

This is a small hairy form, growing in the vicinity of the sea on Vancouver Island. Neighborhood of Victoria. (*Fletcher*.) Departure Bay, Vancouver Island. (*Meehan*.)

Var. **bracteata**, Macoun.

This is a stout, coarse, form with large oval leaves and with the spikes always bracted immediately underneath the flowers. Around dwellings in Kileadar, Addington Co., Ont. ; also in very wet or boggy places at the entrance to Pelee Point, Lake Erie. (*Macoun*.)

(1805.) **P. Rugellii**, Decaisne.

P. Kamtschatica, Hook. Gray, Man. Ed. V., 311. Macoun's Cat., No. 1195.

Frequent along old roads in grassy woods ; also in meadows and pastures, generally confounded with *P. major*, but easily distinguished by its long tapering attenuated spikes. At Casselman and other places in the vicinity of Ottawa, growing in old clearings. (*Fletcher*.) Rather common along the margin of shady woods at Belleville, and abundant in University Park, Toronto. (*Macoun*.) Vicinity of Toronto and London. (*Burgess*.) Vicinity of Hamilton. (*Buchan*.) Near Fort Erie, Ont. (*David F. Day*.)

(1806.) **P. eriopoda**, Torr.

P. lanceolata, var. β . and γ . in part. Hook. Fl. II., 123.

On the shore of Anticosti at the head of Ellis Bay, and along the Gaspé coast at the Rock Dam, Grand Etang, and Cape Chat. (*Macoun*.) Near Kamouraska, Q. (*Burgess*.) Very abundant on saline soil throughout the prairie region, and northward to the Arctic Sea. We cannot separate the St. Lawrence specimens from those obtained on the prairies.

(1807.) **P. macrocarpa**, Cham. & Schl.

P. lanceolata, var. β . in part. Hook. Fl. II., 123.

Coast of British Columbia to Alaska and the Aleutian Islands. (*Gray*.) North-west coast. (*Menzies*.) Sitka and Ounalashka. (*Rothr. Alask.*)

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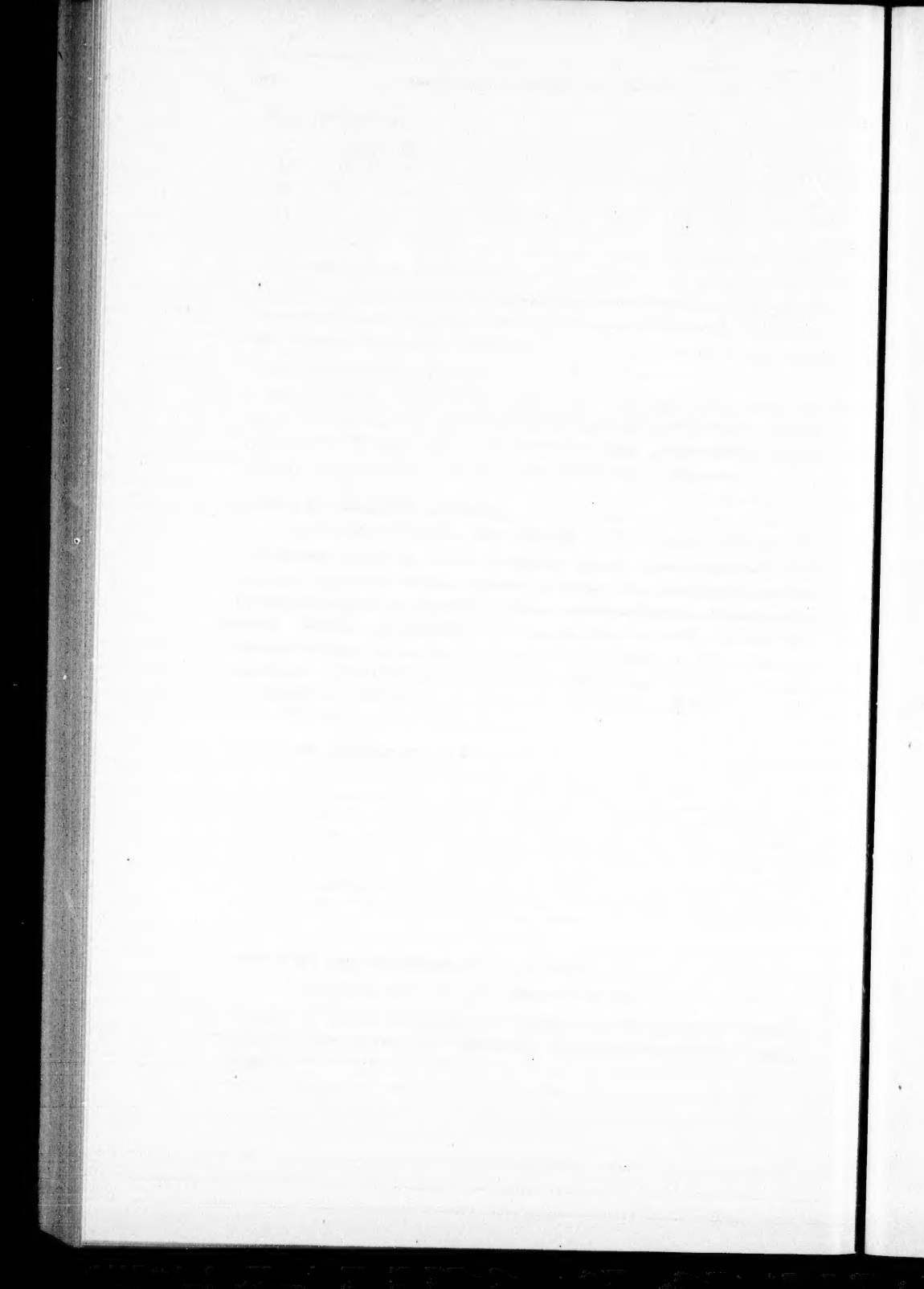
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(1808.) **P. maritima**, Linn. Seaside Plantain.*P. pauciflora*, Pursh Fl. I., 99, in part.

Atlantic coast north of the Gulf of St. Lawrence. (*Gray.*) Coast of Labrador. (*Pursh.*) On cliffs overlooking the sea, Sydney Bar, Cape Breton, and on cliffs along the Gaspé coast, especially about Cape Rosier. These forms are perennial and never grow in marshes. (*Macoun.*) Perennial at St. John, N.B. (*Fowler's Cat.*) Pacific coast from British Columbia to the Aleutian Islands and Behring Straits. (*Gray.*) Abundant in crevices of rocks along the coast at Victoria, Vancouver Island. (*Macoun & Fletcher.*) Frequent on Queen Charlotte Islands. (*Dawson.*) Sitka and Ounalashka. (*Rothr. Atask.*) Newfoundland and Labrador. (*Morrison.*)

(1809.) **P. decipiens**, Barneoud.*P. pauciflora*, Pursh Fl. I., 99, in part.*P. maritima*, var. *juncoides*, Gray, Man. Ed. V., 311.

Salt marshes, Atlantic coast, from Labrador to New Brunswick. (*Gray.*) Common in marshes around the coasts of the Gulf of St. Lawrence and the maritime provinces, ascending the St. Lawrence to Quebec. It is probable that both this and the preceding are common around the coast of Nova Scotia, but in the absence of specimens, we cannot determine. (*Macoun.*) Around the coast of New Brunswick, in salt marshes and in clefts of rocks. (*Fowler's Cat.*) In great profusion in and around salt marshes on Red Deer River about one mile from Lake Winnipegosis, Lat. 53°. (*Macoun.*)

(1810.) **P. lanceolata**, Linn. Rib-wort Plantain.*P. lanceolata*, var. γ . Timbali, Sow. Eng. Bot. VII., 171.

Naturalized on lawns, and by roadsides in most of the settled parts of Canada. Reported from nearly all the towns and cities in the eastern provinces, Quebec and Ontario. It is also becoming quite common at Victoria, Vancouver Island.

(1811.) **P. Patagonica**, Jacq. Var. **gnaphalioides**, Gray.*P. Lagopus*, Pursh Fl. I., 99, not Linn.

Dry sandy soil frequent throughout the western prairies. On dry hillsides near Wood Mountain, thence westward, in great abundance to beyond the Three Buttes, Lat. 49°, growing among the short dry grass of the plains. (*Dawson.*) West of the South Saskatchewan, in the vicinity of the Red Deer Lakes, abundant; also in and around the Cypress Hills and westward. (*Macoun.*) Vicinity of Maple Creek, north of

Cypress Hills. (*J. M. Macoun.*) On very dry soil at Lytton, B.C. (*Macoun & Fletcher.*) Abundant in dry valleys of southern interior of British Columbia. (*Dawson.*)

Var. **spinulosa**, Gray.

In same situations as the preceding variety, but much rarer. Wood Mountain, on the 49th parallel. (*Burgess.*) On the Bear Hills, north of the Red Deer Lakes and near the Hand Hills, N.W.T. (*Macoun.*)

Var. **aristata**, Gray.

P. aristata, Michx. Fl. I., 95.

This form seems to prefer a moister and more elevated region. Summit of the Cypress Hills and northward through the sandhills to the South Saskatchewan. (*Macoun.*)

(1812.) **P. Bigelovii**, Gray.

In salt marshes near the coast at Victoria, Vancouver Island. (*Macoun.*) A small form. (*Gray.*)

(1813.) **P. pusilla**, Nutt.

B. Bigelovii, Watson. Dawson, Bound. Rep., 367.

On sandy or gravelly soil in the prairie region. Along the Trader's Road, east of Wood Mountain, 49th parallel. (*Dawson.*) Cypress Hills north-west of Fort Walsh. (*Macoun.*) On the prairie at Maple Creek north of Cypress Hills. (*J. M. Macoun.*)

(1814.) **P. media**, Linn. Scented Plantain.

Sparingly introduced, but thoroughly naturalized and very persistent on Parliament Hill and Major's Hill, Ottawa. (*Fletcher.*)

498. **LITTORELLA**, Linn. (SHORE-WEED.)

(1815.) **L. lacustris**, Linn. Plantain Shore-weed.

On the margins of lakes and ponds, growing under water, or close to it. Collected on Ship Island, in Gull Lake, an expansion of Gull River, below Minden, Victoria Co., Ont. July 29th, 1868. It was many miles from any settlement and unquestionably indigenous. (*Macoun.*) North end of Lake Champlain. (*Pringle.*) On the shores of Grand Lake, N.S. (*Miss E. K. Wright.*)

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